SOUTHWESTERN JOURNAL OF ANTHROPOLOGY

Published by the University of New Mexico and the Laboratory of Anthropology, Santa Fé in the interest of general anthropology

VOLUME 8 • NUMBER 1 • SPRING • 1952

Some Dynamic Forces in Tlingit Society
FREDERICA DE LAGUNA 1

From Value to Ethos on Ifaluk Atoll
EDWIN G. BURROWS 13

A Primitive Food Preparation Technique in Baja California
HOMER ASCHMANN 36

Kinship Systems of Three Chittagong Hill Tribes (Pakistan)
CLAUDE LÉVI-STRAUSS 40

Paleoanthropology of the U.S.S.R.
G. F. DEBETS 52

Experimental Design in the Study of Culture Change
GEORGE SPINDLER AND WALTER GOLDSCHMIDT 68

Industrialization, a Challenging Problem for Cultural Anthropology
D. B. STOUDER 84

Evidence of a Prehistoric Australoid-Negroid Population in Malaya and Indonesia
G. H. R. VON KOENIGSWALD 92

Some Features of the Kinship Terminology Used in New York Chinatown
ELIZABETH CHIN 97

UNIVERSITY OF NEW MEXICO PRESS
ALBUQUERQUE

THE SOUTHWESTERN JOURNAL OF ANTHROPOLOGY is designed to include articles in all branches of anthropology—ethnology, archeology, folklore, linguistics, physical anthropology, and anthropogeography—relating to peoples and cultures, past and present, in any region. It is offered as a vehicle of expression for anthropologists in all parts of the world.

Manuscripts and other editorial materials should be addressed to the Editor, LESLIE SPIER, University of New Mexico, Albuquerque, New Mexico.

Subscription: $4.00 a calendar year (single number, $1.00). Foreign subscription, 1 £ sterling or its equivalent in local currency. Subscriptions should be sent to W. W. HILL, University of New Mexico, Albuquerque, New Mexico. (Remittance should be made payable to the SOUTHWESTERN JOURNAL OF ANTHROPOLOGY.)

Issued in quarterly numbers: Spring, Summer, Autumn, Winter of each year.

Microfilm copies of whole volumes of the SOUTHWESTERN JOURNAL OF ANTHROPOLOGY may be purchased for permanent files by libraries and other subscribers from UNIVERSITY MICROFILMS, 313 N. First Street, Ann Arbor, Michigan, to whom inquiries should be addressed.

Entered as second-class matter June 17, 1947, at Albuquerque, New Mexico, under Act of Congress of July 16, 1894.

SOUTHWESTERN JOURNAL
OF ANTHROPOLOGY

VOLUME 8 • NUMBER 1 • SPRING • 1952

SOME DYNAMIC FORCES IN TLINGIT SOCIETY

FREDERICA DE LAGUNA

THERE ARE PROBLEMS of Tlingit culture history which may be viewed, not so much as history, but as illustrations of the forces of social and cultural dynamics.[1] These forces may be conceived as operating to control both stability and change in culture. They may be seen through time as effective in forming, fulfilling, modifying, and eventually destroying culture patterns; at closer range they manifest themselves in social equilibriums and strains. We may, therefore, examine briefly Tlingit social organization in an attempt to discover how it reflects the various forces affecting stability and instability of Tlingit community life. Of particular interest are institutional joking relationships and ways in which these may be manipulated for purposes of aggression or friendship. Tlingit joking relationships have not, to my knowledge, received adequate recognition in the literature.

There are three types of division of Tlingit social organization which intersect to give the structure of each community and which constitute the coördinates by which the individual orients himself. These three types of division are: first, *territorial,* creating the thirteen or fourteen local groups or tribes, about half of which form the northern Tlingit, with whom I am particularly concerned; second,

1 This article is based primarily on data gathered among the northern Tlingit of Alaska in the summer of 1950 by the author and her collaborator, Dr Catharine McClellan, on an ethnological and archaeological expedition supported by the Arctic Institute of North America (with funds from the Office of Naval Research) and the Viking Fund, Wenner-Gren Foundation. Dr McClellan's subsequent ethnological work among the Tagish and Inland Tlingit in Yukon Territory during the winter of 1950-51 (supported by the National Museum of Canada and the American Association of University Women) prevented collaboration in writing this article. I am, however, indebted to her and to Dr George Peter Murdock of Yale University for very valuable comments on my interpretation of this material.

kinship, which divides the Tlingit into two exogamous matrilineal moieties, Ravens and Eagles (or Wolves), and is further expressed in the matrilineal sibs and lineages (or houses); third, *class*, which ranks aristocracy and commoners in a somewhat fluid, hierarchical continuum. Even if slavery had not been abolished, we could exclude slaves from consideration here, since they did not take part in the ordinary social and ceremonial life and were considered as chattels by the Tlingit, although they have been reported as constituting about one third of the population.[2] Tlingit social life reflects the solidarities and frictions arising between and within the groupings that result from these three types of intersecting classifications.

The most important divisions are those based on kinship, and it is through moiety, sib, and house membership that territorial and class membership are manifested. The sib is probably central to the whole scheme, at least in the minds of the Tlingit themselves. Although they will explain that moieties are subdivided into sibs (which they call "tribes" or "nations"), and these again are subdivided into houses, it is possible that historically the moieties grew out of alignments and amalgamations of preëxisting sibs.[3] About fifty named sibs have been recognized in the literature, but an exact enumeration is impossible,

2 As Dr McClellan points out, slaves should not, in the last analysis be excluded. Such a large proportion of the population, some Tlingit like their masters though from foreign tribes, and others described as "Flat Heads" from alien peoples to the south, must have affected Tlingit life in more ways than informants have revealed or that we know. Not only did the dominant group have to control them, but they themselves may, in unrecognized ways, have manipulated Tlingit culture and society. Furthermore, a free-born Tlingit might become a slave through the misfortunes of war or through becoming an unwanted orphan, and he might be redemeed and reinstated. The apparent ease with which emancipated slaves were assimilated, and the horror which now colors stories of slave sacrifices at potlatches suggest an ambivalent attitude towards slavery, even when it flourished. My exclusion of slaves reflects, therefore, both our own ignorance and the Tlingits' own feelings.

3 Dr McClellan has suggested that the greater stress laid on moieties by the Interior Tlingit and their neighbors might indicate that moieties were historically prior to sibs. This same stressing of the dual division was also characteristic of the Eyak, so much so that informants at Cordova in 1935 failed to mention sibs (cf. Kaj Birket-Smith and Frederica de Laguna, *The Eyak Indians of the Copper River Delta, Alaska*, Copenhagen, 1938, pp. 123 ff., 447 ff.), and the existence of Eyak sibs at Cordova, Katalla, and other Eyak communities, when attested by Eyak and Tlingit informants at Yakutat in 1949, came as a surprising revelation. They said that sibs have been introduced relatively recently by Tlingit immigrants into Eyak territory. It is possible that both Eyak and interior groups may have preserved traces of an earlier moiety organization that lacked sibs. Or, as Dr McClellan also suggests, for the Tlingit, as Tlingit, there may be no question of either sib or moiety priority. The present moiety-sib pattern may have developed as a unit, or may represent the fusion of two different traditions, but this phase of its history would have antedated the emergence of the Tlingit as a recognizable group.

since sibs seem to be formed by the budding off of lineages as these grow in size and as conflicts develop within the parent sib, and old sibs disappear as they dwindle in importance and become amalgamated with more powerful groups. All stages of these processes seem to be represented in the groups known to us today and in the recent past. Thus, we hardly know whether to list some groups as separate sibs or as subdivisions of a sib. Most sib names are geographical, referring to the supposed original home of the group or to some locality connected with its traditional wanderings; a few sib designations are clearly derived from the names of houses.

Sibs are localized. Small sibs may be represented in only one tribe, but most sibs have branches in two or three tribes. Conversely, every village or community is composed of the local divisions of several sibs, representing both moieties, and from them derives its social character.[4] It is the localized sib or sub-sib, represented by one or more named houses in the village, that possesses territorial rights to hunting grounds, to house sites and cemeteries, and, in the case of some mainland tribes, to trade routes and trade monopolies with the interior Athabaskans. These localized sub-sibs are also the political units, carrying on feuds and wars with other local or foreign sibs. Feuds do not necessarily follow either moiety or territorial lines, but serious wars were formerly between sibs belonging to distinct tribes. Even today, memories of old wars still live, and incautious allusions may arouse dormant inter-sib hostilities. Although there is a tendency for others to join in such quarrels on the basis of moiety or community alignments with the sibs involved, because of real or fictitious kinship with the principals in the fights, yet sib allegiance remains the dominant factor.

In addition to the members of its own sibs or sub-sibs, the Tlingit community also contains some other individuals who belong to sibs established in other tribes. These outsiders are the relatively few married-in husbands and the relatively more numerous wives of the village owners and the children of such foreign women. Since the traditional pattern of residence was avunculocal, even today

4 Dr Murdock points out that this situation is different from that which he found among the Haida and the southern Tlingit of Prince of Wales Island, where the village is a clan, consisting of all the adult males of one sib, plus their wives and children. This difference may reflect simply regional variations in Tlingit social structure. It is perhaps significant that our informants sometimes referred to now abandoned villages as if they had belonged to only one sib, but whenever it was possible to obtain the house names for these villages the latter were found to belong to both moieties. (See Swanton's list for Sitka, as an example: John R. Swanton, *Social Condition, Beliefs, and Linguistic Relationship of the Tlingit Indians* [26th Annual Report, Bureau of American Ethnology, pp. 391-485, 1908], pp. 405-407.) I believe that when one sib is singled out as the sole owner of the village it is simply the dominant or most powerful one that is mentioned, or it may be that which is supposed to have founded the village.

there are not many men resident in a community who do not belong to one of the proprietary sibs. It is possible that this practice of living in the wife's village is fairly recent, or has become more common than formerly. Unfortunately I lack genealogical data which might determine whether or not the husband in such cases had direct blood connections (perhaps via his father's father) with a local sib, and thus could establish some sort of claim to residence as a descendant of that sib. Eventually a group of foreign extraction may grow important enough to found a house of its own in the village and thus establish a new branch of their sib within the tribe, but in the meantime their standing is determined by their relationships to the established village groups and by the prestige of their own houses and sibs in their own community.

It must not be supposed that the Tlingit village is a harmonious social group, recognizing common interests. It is actually made up of real or potential rivals, jealous of their own prerogatives, and the daily and ceremonial life of the community reflects this unstable equilibrium. The degree of friction or solidarity in the village is determined by what we may call the tonus within the sib and by the relationship of the sib to other sibs in the community, and also by pressures from outside.

The sib and its constituent houses are named,[5] and are the units possessing totemic crests, songs, stories, a graded series of personal names and titles, and other ceremonial and social prerogatives. These rights are the most precious possessions of the Tlingit, and material wealth is sacrificed at potlatches to validate and enhance them. These rights are exercised by individuals, primarily by the house chiefs, who act as trustees of the entailed lineage estates, and among them, the chief of the most prominent house is the ranking chief of the sib. But other individuals enjoy lesser rights. A person's name not only implies such rights but places him within the whole social framework, and this in turn serves to orient him with respect to the natural and supernatural world. The grading of social and ceremonial prerogatives belonging to house and sib, and exercised by the prominent members for their groups, constitutes the class rankings of Tlingit society.

These ceremonial and social rights often overlap in the case of a sib and its component houses, or may be shared by two coördinate branches of an original parent group. Rights may be transferred[6] from one sib to another as gifts, as

5 For a list, see Swanton, *op. cit.*, pp. 407-414.

6 For examples of loans or of transfers of prerogatives, see Swanton, *op. cit.*, pp. 421-423, and Viola E. Garfield, *Historical Aspects of Tlingit Clans in Angoon, Alaska* (American Anthropologist, vol. 49, pp. 438-452, 1947).

compensations for damages, or may simply be appropriated through force or threat by a stronger from a weaker one. Thus, in some cases the right may cross moiety lines. Rights may pass from sib to sib within the same moiety in the form of temporary or permanent bequests from a grandfather to his son's son. Possession of similar or identical rights may be interpreted as evidence of kinship and so strengthen bonds between sibs or houses. Or they may be felt as violations of prerogatives which should be exclusive and so provoke slanderous denunciation of the imposters or even armed conflict. Competition between members of the house or sib for the exercise of these ceremonial rights is one of the most serious threats to solidarity within the maternal line.

The moieties serve to regulate marriage and to pattern the expression of ceremonial privileges. Thus, the members of each of the two moieties regard themselves as siblings (of a sort), and must seek their spouses from the opposite group. Within the village, the moieties function as units on the great ceremonial occasions constituting the potlatch cycle which center primarily around the theme of death and bereavement. The same occasions are also utilized by the sibs and houses to validate titles and honorable names, to introduce children as participating members of society, to display their crests, songs, dances, and to affirm, reaffirm, and enhance the social standing of the acting individuals and groups. On these occasions, however, all members of the moiety of the deceased act as the bereaved hosts; all members of the opposite moiety (that of the widowed) are guests to be honored and paid for their services in disposing of the corpse and in consoling the bereaved. The cycle ends with a reversal of roles in which the former guests entertain and give presents to their previous hosts. Although the ceremonies are predominantly community affairs, so recognized today by potlatch contributions to community service funds as well as to guests, yet visitors from other tribes are customarily invited to the more important potlatches, by virtue of real or fictitious kinship with the participants. The various roles played by individuals depend upon their rank and upon their relationship to the deceased. The primary aim of the potlatch cycle is to reunite the community after the tragedy of death, by reaffirming the kinship bonds between the members, by symbolizing the participation of the ancestral dead, by replacing the deceased (if a chief) by his successor, by bringing forward the children in whom other honored names live again, by dedicating anew the totemic crests and symbolically offering them as emblems of comfort to the bereaved, and finally by physically rebuilding the village through renovation of the deceased chief's house or erection of a new house for his successor. Yet the same potlatch cycle provides occasions for creating and airing of ill-feeling, since the etiquette of rank may be

used to shame an enemy, or an inadvertent slight be interpreted as an intentional insult. The meeting provides the arena where potential heirs compete for coveted honors and where the victor triumphs over his rivals. The patterned joking which occurs at the more convivial stages of the series may be manipulated to pay a direct compliment, to provide good-humored fun, or to make a nasty remark about one's relatives. Other potlatches have as their primary purpose the wiping away of an insult or the reaffirmation of social status which has been jeopardized, but these are less important than the major death cycle.

The nobility consists of the titled heads of houses, together with their immediate biological families. Marriages are arranged between equals, and the status of mother, father, and grandparents determine that of the children. A man or woman may through personal conduct and potlatching record raise or lower his or her personal status, and thus eventually the value of the name or title held. Titles are graded in importance, and since every member of the lineage is related to the house chief, no hard and fast line can be drawn between commoner and noble. Nevertheless, the chiefs of the most important houses of the most respected sibs are the recognized social and ceremonial leaders, whereas other house heads hold titles of lesser esteem and their lineages are socially inferior. Often there may be one sib in the community outstanding in size, wealth, and the rank of its leading chief. The most important shaman is usually his close relative, and this sib would be the most influential political faction in the community, even though the power of the chief was not as fully developed among the northern Tlingit as it seems to have been farther south.[7]

Titles are inherited by younger from older brother and then pass to sister's son. Because of the rule that equals should marry equals, and because of the social grading of houses and whole sibs, we find that the ideal form of marriage is that which links a man with the sib and lineage of his father.[8] This would mean that the man's father, his brother-in-law, his children, and his daughter's children ideally should all belong to the same house or at least to the same sib. Such a marriage with a woman of the father's line, preferably with the father's sister or her daughter (both are called "aunt"), is described as a "royal marriage,"

7 Dr Viola Garfield of the University of Washington has commented that the greater importance of the chief among the southern Tlingit is probably reflected in the Whites' custom of designating many southern villages as "Chief So-and-so's Village," after its most prominent chief.

8 Although I use the historical present in describing Tlingit class structure and marriage customs, it must be understood that the importance of class distinctions has waned, and that marriages with close blood relatives (uncles, aunts, and first cousins) are no longer practiced, although unrelated or distantly related persons who occupy the approved classifications are still favored as spouses.

presumably because it is especially appropriate for the aristocracy, and as one that "shows respect for the father's kinsmen." A young man who is succeeding to the title of his maternal uncle would marry his uncle's widow, and she would be ideally his paternal aunt. Formerly, the nephew even enjoyed access to her during his uncle's lifetime. He has lived in his uncle's house since boyhood, and the uncle has been a strict disciplinarian and teacher. The youth's resentment at the hardships he has undergone in the course of his training and the uncle's jealousy of his young sexual rival are disruptive forces within the household. Conversely, the young woman of rank may expect to marry her father's heir, that is, her paternal uncle or her cross-cousin (father's sister's son), and so remain as a wife in the house where she has spent her girlhood. Marriage of widows and widowers with their paternal nephews and nieces thus results in many marriages between persons of very different ages. This may be a cause of personal unhappiness and friction. In such cases, too, the young man or woman (?) of rank also seems to be provided with a second spouse of his or her (?) own age. Although we obtained only a hint of such plural marriages (presumably polygynous in most cases), we should expect jealousy between co-wives and there might well be trouble also between the half-brothers and -sisters resulting from such double or from second marriages.[9] There are certainly many cases in which a woman did not get the husband she wanted or had to marry the man she did not want. Sexual jealousy between women often takes as overt and violent a form as jealousy between men. In addition, sisters-in-law are said to be jealous of each other. Perhaps it is no wonder that women are traditionally blamed for trouble, either because they received illicit lovers or gossiped too much!

Kinship thus seems to provide the fundamental framework of Tlingit society, and to draw the lines along which both discord and solidarity are expressed.

The maternal line of sib and house provides the basic security for the individual. He is actually the reincarnation of a maternal ancestor, supposedly manifesting the same physical and psychological traits as the ancestor whose name he bears, and he expects to be reborn again after death as the child of a woman of his line. As he advances in social status, the honorary names he assumes, the crest hats and regalia he wears, further serve to identify him with the glories of his predecessors. His physical and spiritual well-being are bound up with that of his uncle, his mother, his brothers and sisters, and his nephews and nieces. He supports his chief's undertakings to enhance the standing of the house and sib,

9 Dr McClellan informs me that in the Interior Tlingit groups step-children are traditionally ill-treated, especially by the step-mother, and we received a few hints to suggest that this may also have been true on the coast.

and the latter in turn is ready to mobilize the whole lineage or sib to protect him from aggression by an outsider. The lineage and sib are supposedly the coöperating group, presenting a solid front to the outside world.

Yet this solidarity may be broken. For example, deep-seated rivalries and resentments smoldering within sib or lineage may find expressions in accusations of witchcraft. Especially if a man of rank were dying or if illness has stricken several members of the line, the ultimate treason of witchcraft might be suspected —and the witch is traditionally a blood relative. To detect the witch a shaman from another sib has to be called in[10] and torture employed to force the suspect to confess. The witch can undo the evil he has caused by retrieving the bits of clothing or food leavings of his victims from the grave where he has hidden them to rot, but only if the ghost of the dead person has been appeased by the witch's sufferings. And here lies the real tragedy. The witch is powerless to undo any curse he may have inflicted on anyone who later defends his innocence at his trial. Thus, if and when the group of relatives turns against a member, solidarity is demanded of them on pain of possible supernatural sanctions. Though the repentant witch may finally be pardoned and the incident be closed officially, the animosities which originally precipitated the trouble may still rankle. It is probably because of this that there is a saying that persons most vocal in expressing fears of witchcraft are themselves the first to be suspected. This belief would act as a deterrent to irresponsible accusations.

There have also been cases of open and direct aggression within the group of kindred, but these can lead only to the splitting up of the sib and the emigration of one of the factions.[11] There is no effective institutionalized method of dealing with violence within the maternal kin group. Payment of damages, evening the score by killing an equal, and peace-making ceremonies in which ambassador-hostages are exchanged and honored can only be used to settle or prevent feuds between sibs.

The ways in which the maternal line is emphasized and reinforced are so well known that it is unnecessary to discuss them further. We should rather examine the ways in which the individual and his sib-mates are linked to other sibs. All

10 This generalization that an outside shaman had to be consulted was made by one informant, but we learned of only two specific instances. We should expect also that there were cases in which suspicions of witchcraft were directed towards unrelated or unknown persons, with such lack of sib patterning reflecting diffuse anxieties. Again, it is to be understood that this account refers to the past, not the present.

11 This is well illustrated in the history of Angoon, as recorded by Garfield, *Historical Aspects of Tlingit Clans*, and confirmed by our informants.

members of a grandparent's sib are one's grandparents, all members of the father's sib are fathers and paternal aunts, all members of one's spouse's sib are brothers- and sisters-in-law, etc. Dominant in this pattern is the relationship to the father, since all affinal relatives of one's own self and of one's direct maternal line are supposed to belong to the father's maternal line.

The father-child link and the affinal link are considered as equivalent or as symbolically the same, even in cases where they are not actually identical, and they furnish the basic pattern upon which all inter-moiety relationships are built. We have only to remind ourselves of the repeated exchange of services between moieties, in which fathers, father's sisters, brothers-in-law, widowed spouse, or fatherless child play leading roles. These services are generally rendered at life crises: at childbirth, at critical stages of the child's growth such as puberty, tattooing or ear-piercing, at elevation of rank, and finally at the death of the individual who stands in the affinal or father-child relationship.

Affinal and paternal bonds are tested in time of feud between the sibs. Thus, the brothers-in-law who normally serve at potlatches as the public accountants, distributors of ceremonial payments, and announcers of honors assumed or bestowed, function as far as they can as neutral go-betweens in time of war or feud. There is an instance of a man who gave his life in a futile attempt to save the members of his wife's sib from the attacks of his own sib-mates. Conversely, a wife is proverbially unreliable, and may betray either her brothers or her husband. Again, we are told of a woman in a besieged fort who, recognizing a brother's son among the attackers, gave him such a tongue-lashing that he and his comrades departed peaceably.

The cross-moiety paternal-affinal bond also interweaves in elaborate fashion with the intra-moiety bond to color the latter in unexpected ways. Thus, the father-son link is probably implied in the special ties between paternal grandfather and his son's children. Under the ideal system of marriage these individuals would belong to the same sib and house, and for this reason the paternal grandfather is equated with the mother's mother's brother, surely the most revered elder in the maternal line, and the grandchild is equated with the niece's child. Actually these pairs were not the same in a great many cases, for a sizable minority of marriages fail to conform to the ideal pattern linking two sibs, and so every genealogy contains outside grandparents and grandchildren. Nevertheless, the paternal grandfather and his sib-mates treat the paternal grandson as if he were their own junior self, protecting him if he visits them away from home, giving him magical training, indoctrinating him in the grandparental sib tradi-

tions, and dressing him in their sib crest hats and robes to dance before the opposite moiety.[12] Most of these are things which the father cannot do.

As has already been said, the men and women of a sib or moiety are considered to be brothers and sisters, and should therefore be "shy" of each other, avoiding any behavior or form of speech which might imply sexual allusions. Yet the paternal-affinal relationship may operate to permit of greater familiarity between them in special instances. Thus, there is institutionalized joking between a man and his son's wife or his son's daughter (the two women are equated), although the man and woman are ideally so closely related that only the most circumspect "shy" behavior would be demanded. Such joking is part of the fun provided at potlatches, and is said "not to mean anything." Furthermore, this father-daughter-in-law relationship may be fictitiously extended and manipulated to permit of greater ease of intercourse between men and women of the same sib,[13] or even to allow them to make nasty jokes about each other in public. Thus, a man of the Kagwantan sib, for example, may treat his "aunty" (mother's sister) as his daughter-in-law if her husband is the son of a Kagwantan man. Furthermore, at a potlatch a woman may be identified with a distinguished father-in-law (that is, with a man of the latter's sib) for the purpose of friendly teasing, such treatment being one way of honoring a guest.[14]

The father-child tie is one which is stressed on all possible occasions. Children of the men of a sib, for example Kagwantan children, are supposed to form a particularly close and happy group, "like brothers." To address or to refer to a group as "Kagwantan children" brings pleased smiles to their faces. Perhaps

---

12 Dr Murdock informs me that he found among the Haida the same special relationship between a man and his father's father, even to the use of the grandparental crests or the inheritance of a title, in case this would otherwise lapse through the extinction of the grandfather's maternal line.

13 Durlach received hints of this behavior (T. M. Durlach, *Relationship Systems of the Tlingit, Haida, and Tsimshian*, Publications, American Ethnological Society, vol. 11, 1928, p. 33). Thus, when discussing the choice of kinship terms that might be used by a woman to a man who was both her mother's brother and her father-in-law, Mr Shotridge, her Chilkat informant, indicated that either might be employed but that "it would be preferable to regard [the man] as her father-in-law because of the existing taboo forbidding women to talk to men of their own clan unless absolutely necessary." Durlach fails, however, to understand that this permits of greater familiarity. However, the importance of the affinal bond is shown by a statement in the same passage: "When cousins marry, terms of affinity take the place of the old terms of consanguinity."

14 Dr McClellan has found such sex shifts in terms of address on ceremonial occasions in the interior, where, for example, women of the father's sib (father's sisters or "aunts") may be called "father," or where two women who are father's sister ("aunt") and mother's brother's daughter ("niece") may call each other by the terms used for father's brother and father's sister's son.

it recalls, at least to the men, a carefree childhood in their father's house before they had to submit to the discipline of their uncle in order to prove their manhood and enter upon their matrilineal inheritance, and for the women it may recall equally happy days before they had to move into a strange household of a husband. In any case, the bond between spouses is strengthened if one or both can address the other on formal occasions as the child of his or her own sib. Such form of address is not uncommon, even between unrelated persons, when one wants to ask a favor. People actually identify themselves with their fathers and their father's sib, and either take pride in the latter's good name or feel humiliated when their shortcomings are exposed. Even women have been known to engage in brawls when former wars between the sibs of their fathers were mentioned, and such brawls will actually turn sib-sister against sister.

At the more convivial feasts of the potlatch cycle, children of the same sib are often seated together, so that they may enliven the proceedings with their buffoonery, and their good-humored teasing of each other is considered as a gesture honoring the hosts (i.e. their father's moiety) to be suitably rewarded during the distribution of property. Conversely, if the hosts sing a song about the children of one of the sibs in the host's moiety, the group of guests so honored will make a payment at the return potlatch. A White trader in the early days used to manipulate this pattern by singing to each Indian who came to sell him furs: "Have pity on me, child of . . ." naming each sib in turn until he struck the right one, in order to soften the Indian up for the subsequent bargaining.

Joking or buffoonery at a potlatch might take the form of a stunt in which the sons of a sib pretend to dance with a crest hat, the humor deriving from the fact that the dancers did not belong to the same sib in the first place and, in the second, were actually using a mask which portrayed a shaman's most dreaded familiar. Or, two sons of a sib might pretend to accuse each other of witchcraft. Both acts fall so close to the most serious aspects of Tlingit belief that their value as humorous releases of tension is obvious.

Children of a sib are supposed to take jokes in good part, but some jibes may be cruel. Thus a man of the Kɬksadi sib, who was the son of Kagwantan, went from Sitka to Chilkat to attend a potlatch. There he was taunted by a Chilkat man, also a son of the Kagwantan, about the humiliations he and the Kɬksadi were suffering at the hands of the Russians. This is said to have given the Kɬksadi "that fighting spirit," and to have provoked the successful attack on the Russian fort at Sitka.

Finally the importance of the child-of-sib relationship is emphasized again

and again in the drinking songs, which are dramatic expressions of release from tension.[15] These songs are traditionally addressed to the child of a sib, usually one's own, whether they tragically plead for pity, ask for a witness to glory, or cruelly satirize the hearer.

Even pairs of sibs in the same moiety are equated, because they are of equal rank, and the sons of men of these two sibs joke together at potlatches, usually teasing each other about their respective fathers. Nowadays, women are said to "feel they are the equals of men," so that this joking relationship now includes the two sexes, and the women are reputed generally to get the better of the men in exchanges of repartee.

Is not much of this reminiscent of the Crow pattern of joking between sons of the men of a matrilineal sib and between sons of linked sibs? Would not the origin of such customs be perhaps easier to understand if we imagined the Tlingit once possessed matrilineal sibs without moieties, like the Crow; for a mechanism that links individuals through their fathers would seem to be more necessary for a people who lacked those moiety-patterned reciprocities that furnish cross-matrilineal ties? Or are the Tlingit father-son and affinal bonds which offer so many outlets for happy fellowship, good-humored fun, deft compliments, and nasty taunts to be regarded as having originated within the moiety system, to provide emotional and social balance to the emphasis upon the maternal line?[16]

Bryn Mawr College
Bryn Mawr, Pennsylvania

15 Examples of such songs are to be found in John R. Swanton, *Tlingit Myths and Texts* (Bulletin, Bureau of American Ethnology, no. 39, 1909), pp. 394-414.

16 Dr Murdock reports that the Haida have the same joking relationship between the children of men of a sib, and suggests that this type of father-son link may be widespread in matrilineal societies and be related integrally with the Crow type of kinship terminology. He doubts that it has anything to do with the presence or absence of moieties. Thus from both Drs Murdock and McClellan come gratefully acknowledged criticism of my tentative suggestion that moieties might be more recent than sibs among the Tlingit. While I would not wish to defend this suggestion, I feel it worthwhile to leave the text as I had originally written it, if only to call attention to a problem of theoretical interest.

FROM VALUE TO ETHOS ON IFALUK ATOLL

EDWIN G. BURROWS

I

THIS IS AN ESSAY in the literal sense—a venture, an attempt. Specifically, it casts up a tentative scheme intended to arrange in manageable order the main kinds of motivating tendencies in human culture. An outline of the scheme will be followed by a sketch of its proposed application to a particular culture. The whole is offered in this preliminary way mainly in the hope of bringing out suggestions for improvement before applying the scheme more systematically.

The scheme has been formulated in the course of an attempt to bring out the social function of art on the atoll of Ifaluk in the central Caroline Islands. The tentative thesis of this study is that art serves there to express and reinforce the emotional tendencies which motivate the lives of the people, insofar as most individuals are motivated alike. In order to test this proposition, it was necessary to work out a formulation of emotional tendencies in general, since none was found ready to hand, at least none that seemed suitable.

The concepts chosen and their definitions draw mainly upon three sources: *Values and Value-Orientations in the Theory of Action* by Clyde Kluckhohn and others;[1] *A Clinical Study of Sentiments* by Henry A. Murray and Christiana D. Morgan;[2] and *Culture and Ethos of Kaska Society* by John J. Honigmann.[3] The concepts of value, sentiment, dynamic system, and ethos are here fitted together. The process involves a few shifts, at least in emphasis, which may distort the concepts as viewed by the authors cited. These differences, however, do not seem to amount to incompatibility.

The simplest unit in the scheme—though still anything but simple—is the value. The definition suggested by Kluckhohn and associates will be followed here, but with one of the shifts of emphasis just announced. The definition, with a sentence of comment indispensable for the present purpose, follows:

1 Clyde Kluckhohn and Others, "Values and Value-Orientations in the Theory of Action" (in Parsons and Shils, eds., *Toward a General Theory of Action*, Cambridge, Mass., 1951).

2 Henry A. Murray and Christiana D. Morgan, *A Clinical Study of Sentiments* (Genetic Psychology Monographs, vol. 32, 1945).

3 John J. Honigmann, *Culture and Ethos of Kaska Society* (Yale University Publications in Anthropology, no. 40, 1949).

A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection between available modes, means, and ends of action. . . . At the outset, however, it should be remarked with emphasis that affective ("desirable"), cognitive ("conception"), and conative ("selection") elements are all essential to this notion of "value."

To define a value as a conception obviously emphasizes the cognitive element. The shift here is to emphasize the affective element. The affective element of a value is here taken to be a cathected affect. Emphasis upon this element does not mean, however, that the others are denied or will be ignored.

Another slight change in wording seems convenient. Values can be positive or negative. In general discussion of the concept, as above, the term will be taken to include both kinds. In discussing specific values, however, it seems clearer to speak of a negative value—or at least its affective element—as an aversion.

Values, in the scheme proposed, combine into sentiments. One of several definitions of "sentiment" proposed by Murray and Morgan—chosen here as the one which seems to require the least explanatory comment—is this: "A sentiment is an acquired psychophysical disposition to respond affectively to a certain entity or to entities of a certain class." These authors explicitly narrow down the concept from that used by Shand, MacDougall and others, for whom a sentiment is "an organized system of emotional tendencies centered about some object." This narrowing-down brings a sentiment uncomfortably close, for the present purpose, to identity with a value, or at least the affective element of a value. However, Murray and Morgan allow for "compound sentiments." The sentiments in view here are compound, including several values; ordinarily at least one positive value and one negative value or aversion.

Next in order of complexity—still following Murray and Morgan—are dynamic systems. Each dynamic system, they say, "contains at least four kinds of elements: (a) one or more sentiments; (b) one or more needs; (c) knowledge of the goals and subgoals which lead to them, and (d) a host of actones, mechanisms or abilities." Without attempting to apply this definition in detail—in particular, without venturing into the fourth category at all—"dynamic system" is intended here to mean substantially what they mean by it.

The most complex unit—the overall one which is taken to comprise all the motivating emotional tendencies of a culture—is that of ethos. Honigmann supplies this convenient, carefully formulated definition: "Ethos will be defined as the socially patterned dominant motivations of personality and their expression in motivated behavior and the material results of, or material aids to, such behavior."

One characteristic of the scheme, which superficially seems to conflict with all the sources quoted, is that value, sentiment, dynamic system, and ethos are all used as components of culture. In the sources—except Kluckhohn and associates, who explicitly allow for either alternative—these entities are treated as components of personality.

Is there a conflict here? I think not, and unless I misinterpret a conversation with Honigmann on the subject, he agrees. The scheme was worked out before seeing the article *Culture and Personality* by M. E. Spiro, my camp-mate on Ifaluk;[4] but was influenced by conversations with him. Gardner Murphy's contribution to the Viking Fund symposium on "Culture and Personality" takes essentially the same point of view. The apparent discrepancy between components of culture and components of personality can be reconciled by taking the two views as literally views, from somewhat different standpoints, of phenomena essentially identical. In one case they are observed as manifested in individual behavior; in the other, as manifested in shared forms of behavior. Insofar as values, sentiments, and the rest are shared by many persons in a society, they form the ethos of that society's culture. Or, to put it the other way around, insofar as the ethos of a culture is internalized, it constitutes the cultural component in personality.

II

In this section the scheme will be applied to part of the culture of Ifaluk. The data were obtained during six months' field work on the atoll by M. E. Spiro and the writer during 1947-48, as part of the project called CIMA (Co-ordinated Investigation of Micronesian Anthropology), conducted by the Pacific Science Survey of the National Research Council. Spiro's objective was personality formation in that culture; mine, general ethnography and a study of the native arts. More of the relevant data than can be given here will appear shortly in a general ethnography[5] on which the two of us collaborated; still more, later, in publications on our two special projects.

The data on one sentiment, with its component values, will be presented in some detail. Another, which modifies the first, so that the two constitute a dynamic system, will be treated more briefly. Four cases of individuals ill-adapted to this system will then be considered. The sketch will conclude with a list of other

4 Melford E. Spiro, *Culture and Personality: The Natural History of a False Dichotomy* (Psychiatry, vol. 14, no. 1, 1951).

5 E. G. Burrows and M. E. Spiro, *An Atoll Culture: Ethnography of Little-Disturbed Ifaluk in the Central Carolines* (Behavior Science Studies, vol. 1, Human Relations Area Files, New Haven, in press).

dynamic systems, with such of their components as are now apparent and mention of the kinds of evidence available about them. The whole amounts to a shadowing forth of the ethos of the culture.

The sentiment to be presented in some detail is that concerned with rank—here defined as relative, evaluated status. It was chosen for three reasons: first, that my data seem fairly satisfactory; second, that the emotional strength of this sentiment is less obvious than that of some others, hence a more detailed presentation is required to make it clear; third, that it will not be treated at all fully elsewhere, because it finds but little expression in art, and any reflection in personality seems to be neutralized in most cases by another sentiment. Though relatively mild in emotional tone, this sentiment is pervasive. Accordingly, the evidence ranges from social structure through folklore to little illustrative incidents and bits of conversation.

The people of Ifaluk are so few (two hundred fifty of them); their territory so restricted (about one half square mile of land surrounding a square mile of lagoon); and their lives all forced so much of the time into the same channels by the routine of getting a livelihood, that it would be nearly impossible for any part of them to keep aloof from the rest. So there is next to no segregation. Each individual surely has some face-to-face-contact with every other. Nor is any group set off by differences in wealth, costume, or forms of speech. Yet a hierarchy of rank, complex for so small population, is evident not only from what they say about themselves but from a good deal of what they do.

The atoll is governed by five chiefs, whose titles are hereditary within four of eight matrilineal clans. The titles and the clans that hold them are ranged in a fixed order of rank. A list in this order follows:

Title-holding Clans

1. Kovalu.[6] (Said to be the title of the chief as well as the name of the clan, but rarely if ever used as a title.)
2. Sauvelarik. (This clan holds the title that ranks No. 4 as well as the one that ranks No. 2.)
3. Mangaulevar. (Title as well as clan name.)
4. Rapevelu. (Title as well as clan name.)

Clans Without Titles

5. Sauwel.

The other three clans seem to be about the same in rank—in other words, they share the lowliest position. The names of these clans are Kailangailuk, Kailangalualea, and Bwel.

6 Diacritical marks omitted throughout.

Distinctions in rank among clans are somewhat more complicated than a simple list can show. Clans No. 1 and 2 are elevated even above the other two title-holding clans by two special privileges: one a prior claim to a particular highly-prized food, the other a restriction against trespassing on a particular homestead. The food reserved to No. 1 clan, Kovalu, is sea-turtle, the most desirable meat of all. Anyone who can, may catch a turtle, but he must present it to the paramount chief, who alone may butcher turtle. In butchering, the Kovalu chief apportions the meat at he pleases. If he likes, he may keep it all within Kovalu. If—as happened on all the several occasions we witnessed—he allows some to others, it must be regarded as largesse or bounty. Sauvelarik, No. 2 clan, has the same privilege with regard to yellow-fin tuna.

The other prerogative applies to one of the twenty-nine inhabited homesteads on the atoll and one site no longer inhabited. The homestead Uelepi, where the No. 1 chiefs live until they marry, is tabu to all outsiders. Those who have the right to frequent it include—as the natives put it verbally—members of Kovalu clan and men married to women of that clan (residence being matrilocal). In practise, as will appear shortly, the restriction seems to be even narrower than that. A similar tabu is said to surround Bwagolei, a homestead of the Sauvelarik clan. Bwagolei was uninhabited in 1947-48. There was nothing on the site but an old house-platform and some coconut and breadfruit trees, whose fruit would be reserved to hereditary owners in any case. There was little occasion to frequent the place, so the tabu made hardly any difference in practise. Yet our interpreter, who was a Sauvelarik man, made quite a point of the tabu, apparently to emphasize that Sauvelarik had the same kind of prerogative as Kovalu.

Another mark of the distinctive status of these two clans is a tendency to intermarriage between them. A table worked out from census and genealogies showed ten marriages between these two clans, no more than seven between any other two, although neither Kovalu nor Sauvelarik is the most populous of the clans. However, this selective tendency does not amount to endogamy. There were marriages between Kovalu and each of the other clans.

A slight distinction sets off Sauwel from the other clans that lack chiefly titles. A title of a unique sort is hereditary within this clan. Its holder is not quite a chief, but more like a petty or non-commissioned officer. He does not sit with the chiefs in council; but he is supposed to act as messenger for them and to see that their orders are carried out. As the holder of this title in 1947-48 was old and feeble, this function was in abeyance.

The only other distinctive clan attribute noted was ascribed to Bwel. The name means "taro swamp," and the people of that clan are credited with special skill

in the drudgery of cultivating "swamp taro" *(Cyrtosperma chamissonis)*. This distinction, which has the look of a consolation prize, made no difference in overt behavior. Patches of taro swamp are hereditary within all kin groups, and the women credited with their ownership (another consolation prize) do the work of cultivation regardless of clan membership. It may well be that if new swamp land were prepared for cultivation, the people of Bwel would be called upon; even the Bwel men might be expected to take a hand. But as there is more land in "swamp taro" now than the present population can care for—given the fact that men strictly avoid this labor—there is no prospect of clearing more.

Distinctions of rank are not exclusively between clans. Some of them set off lineages within the clans; this despite the fact that no native term was found for "lineage," nor do the individual lineages have names except those of the homesteads they occupy. This finer distinction became apparent when the No. 3 chief, whose title is transmitted within Mangaulevar clan, died during our stay on Ifaluk. Questions about the probable successor brought the reply that the title would probably remain vacant for a time, as there was no one qualified to succeed to it. Yet Mangaulevar, with fifty-four members at that time, was the most numerous of the clans. It seemed that some eligible person should be available. Asked about this, our interpreter explained—using his favorite English expression for distinctions of rank—"Even inside one clan, some more high, some more down." The same distinction between lineages seemed to be expressed in the tabu on the homestead Uelepi. The answer to the question "Whose homestead is this?" was always the name of a clan. But each clan was credited with more than one homestead. For all practical purposes, the owners of each homestead were those who lived there. They constituted, typically, a matrilocal extended family; and the heirs, down through the generations, a matrilineage. In practise, those who frequented the tabu homestead Uelepi seemed to be, not all members of Kovalu clan, but only its senior lineage, born and brought up there, together with the husbands of the women of that lineage.

In the case of chiefs—since they outrank commoners—there are differences in rank even within a lineage. Seniority makes a slight differential between any two individuals. Sex may count, too—at least the males come out much better in the division of labor. The chiefs readily accepted a suggestion that women differ in rank from men—if, indeed, the idea was new to them. Spiro asked which sex was higher in rank, and was told "Women; because give people." Reminded of the fact—of which they were well aware—that it takes a man, too, to bring about the birth of a child, they reconsidered; told Spiro to delete their first answer and write down that men are "more high."

Rank in Ifaluk is so finely subdivided; the lines of cleavage between adjacent statuses so nearly invisible; and subordination—except between chiefs and commoners—so little evident in behavior, that status is graduated—a continuum—rather than stratified. This amounts to saying, that in Ifaluk, for all the importance of rank there, there are no social classes. One reader of an earlier version of this paper asked "But don't the chiefs constitute a class?" No definition of a social class has been found that would permit an affirmative answer. The families of chiefs do not share in their high rank. Families rather than individuals are generally taken as the units of class membership. The chiefs constitute rather what we call "the administration," or what Hoebel calls "the government" as distinguished from "the state."

Respect for chieftainship is inculcated symbolically in several ways. One is in the only work of native architecture that has any pretension to being more than a simple shelter. Formerly Ifaluk seems to have had several of the communal buildings generally called "men's houses," because at one time they were dormitories for unmarried youths as well as places for public assemblage. Now but one such building remains. Its generic name is Fan Nap, "Big House," and it is no longer a dormitory, but more like a town hall. It is also called Katelu. This is a place name. The tract Katelu includes the site of an ancient "men's house" as well as the present Fan Nap. To a considerable extent, this whole tract is a symbol of chiefly authority. The site of the old men's house, of which only the platform and a few back-rest slabs remain, is overgrown with tall trees and dense undergrowth. It is tabu to all but the chiefs, and I never saw even a chief enter it.

The building now in use, constructed on a slightly different plan from all other buildings on the atoll, is marked most conspicuously by a front post, the Ungarik, which rises directly to the ridge-pole. This post is hewn square and covered with painted decorations. Most conspicuous of the decorations is a wooden phallus painted black and white, which projects from the post about four feet above ground.

A path that borders the lagoon passes directly in front of the "men's house." However, only chiefs use the part of the path directly in front of Katelu, unless commoners have business there, as when they have been summoned to a public gathering. Otherwise, they detour to shoreward. And even when following the detour they walk stooped, with hands behind their backs, in token of respect to the chiefs. Some may be lax in this respect; but if a chief sees them, he will rebuke them sharply. One instance was observed. (In general, any such aggressive speech is rare with this courteous people.)

The phallus on the front post refers to a legend, one of a series in which the

sentiment of rank is extended overseas. The phallus represents the penis of Maur, a great man of old, first of the senior line of Sauvelarik chiefs, who rank No. 2 in the hierarchy. The legend is given in full elsewhere.[7] In sum, it tells how Maur was beaten because of a quarrel over a woman on the neighboring atoll of Woleai; how he managed to return to Ifaluk, summoned the people to assemble at Katelu, and told them of his mistreatment on Woleai. His peroration was "I will not waste more words. I will take off my loin-cloth; and if my penis points toward Woleai, let all the men make spears, attack the island, and kill every man, woman and child, except my woman and the son she bore me, who will be wearing strips of coconut leaf about their wrists." He took off the loin-cloth. Sure enough, his penis pointed toward Woleai; and his injunction was carried out to the letter. Woleai was repopulated from Ifaluk. Hence Ifaluk is the "old country," Woleai a colony. In other words, "Ifaluk more high." To commemorate the famous victory, the wooden phallus still points exactly toward Woleai.

A similar legend about conquest of another atoll, Lamotrek, including massacre of its early inhabitants and resettlement from Ifaluk, accounts for the No. 1 chiefly title. In outline, the tale is that in the old days the people of Lamotrek used to massacre the crew of every Ifaluk canoe that put in there. Finally, an Ifaluk flotilla set out to take revenge. The Ifaluk warriors were unable to conquer the main islet of Lamotrek until the great warrior Mailias, who had been away when they first set out but had rejoined them later, worked out a stratagem which brought victory. Descendants of Mailias, who make up the clan now called Kovalu, are the No. 1 chiefs. Asked why Mailias outranked Maur, a much more prominent figure in tradition, our interpreter said "Because Mailias savvy fight; Maur only savvy talk."

A third legend accounts for Ifaluk outranking Faraulep. This one does not validate any chiefly title, for the people of Faraulep did their own massacring, in a civil war, leaving only one survivor for the Ifaluk invaders to kill. But it still validates the claim of all Ifaluk to outrank Faraulep. Asked about Aurupik, an atoll to the south, our interpreter seemed a bit disgruntled, perhaps because there was no legend for the chiefs to tell us. But he summed up the general position by saying "Aurupik all same size. Ifaluk more high."

Going still further afield, we encounter a body of tradition which subordinates Ifaluk to a foreign power, Yap, or more precisely, to chiefs of a particular line from Gatschapar district in Yap. Lessa[8] has reported this tradition from Ulithi,

7 Burrows and Spiro, *An Atoll Culture*.

8 William A. Lessa, *The Place of Ulithi in the Yap Empire* (Human Organization, vol. 9, no. 1, 1950); *idem*, *Ulithi and the Outer Native World* (American Anthropologist, vol. 52, no. 1, 1950).

where it is much more highly developed. The people of Ifaluk acknowledge their subordination to the Yap chief, greet him on his periodic visits with some gift in token of respect, and listen piously while he prays for their prosperity. They even told me a story accounting for the first population of Ifaluk by colonization from Yap. But they told Spiro another which makes the population autochthonous. In general, I gathered that they were not too happy about the whole thing, and would be just as well pleased if it were forgotten.

Ever since they first became aware of a world beyond the Pacific islands, the people of Ifaluk have been subordinated more or less effectively to some world power—first Spain, then Germany, then Japan, and now the United States. Their attitude toward their present overlord (strictly, trustee; but they seem not to have grasped that relationship) seemed to be one of pride in being attached to so mighty a power. Although they praised our friendliness in contrast to the domineering attitude of the Japanese, power was what impressed them most. During the war some of their young men, attending school in Yap, had seen the results of American bombing there. More had seen the devastation of one islet on Woleai, where there was a Japanese air strip. The young men never tired of asking whether the United States was stronger than this or that other world power.

Their feeling of subordination to the United States came out clearly in their behavior toward the two anthropologists who were the first Americans to spend more than a few hours with them. Early in our stay one of the chiefs said "We'd better do whatever these Americans tell us. Otherwise—no more chiefs." We had to be very careful not to say anything that might be interpreted as a command. The response to one chance remark of Spiro's was a striking illustration. He said, in the course of casual conversation, that there were Americans on other islands doing the same kind of work that we were doing on Ifaluk.

It was apparently their preoccupation with rank that led them to interpret the whole anthropological survey as a contest, in which the islands that pleased the Americans most would be rated "more high," those that displeased them "more down." The chiefs took council together. What would please the Americans most? The surest thing was that the Navy doctors were always telling them to clean up.

The conch horn sounded, summoning the people to assemble at the men's house. The pattern of these meetings is itself a ritualization of the sentiment of rank. Only chiefs speak, except that commoners may applaud with a "roong-eroong!" (Hear, hear!) The first to speak is the chief of lowest rank, exhorting them to heed the words of their betters. After that there is no fixed order except

that the highest chief usually speaks last. The speeches add up to something very like a sermon, reproving misdeeds and laying down the law, though without religious connotation. This time the object was to mobilize the population to clean up the island. This they did, deploying from shore to shore like so many park-keepers, gathering trash to burn or throw into the lagoon.

Another illustration was provided most unwillingly by Spiro, or rather by an irritable bitch with pups that attacked him. Several of the dogs did not like us, presumably because of our clothes and pallid coloring. This one bit Spiro in the leg. Now when dog bites man on Ifaluk, the penalty is death. It happened several times during our stay, as the dogs are cruelly teased. The other canine offenders were put to death by their owners or, in one case where the owner was visiting on another island, by the small boys of the neighborhood. But the biting of one of the guests from the mighty United States of America was an international incident. The paramount chief, and with him the No. 4 chief, who had charge of the particular district involved, went in person to see that the penalty was carried out.

How do these details fit into the conceptual scheme outlined at the beginning? It seems clear that the sentiment of rank involves at least two strong positive values. One is that of respect for the high and mighty, evinced by deference on the part of subordinates. The other value is pride in rank on the part of those highly placed. This is shown especially in the legends putting Ifaluk above the other neighboring atolls. The anxiety to make a good showing in the eyes of the United States, and thereby win high standing, expresses both of these values.

Aversions (negative values) are less clearly attested, but it seems safe to postulate an aversion to insubordination. The only instance cited is the rebuke to the man who failed to stoop respectfully in passing before Katelu. Since rank is the source of authority, the practical object of the sentiment of rank seems to be maintenance of law and order. The strength of the sentiment is attested by the virtual absence of crime. The only misdemeanors that came to public notice while we were there were those of the dogs who bit human beings and were put to death for it, and those of the psychopath Tareveliman, discussed in an article by Spiro.

Haughty or overbearing conduct on the part of a chief was conspicuous by its absence, except once, when a party from Woleai, including two chiefs, called on Ifaluk. During a conversation with them, the paramount chief of Ifaluk remained lying on his back and was rather ostentatiously indifferent. This, on the part of

a soft-spoken man of pleasant, almost diffident mien, was very noticeable. It was apparently a way of emphasizing his traditional superiority in rank.

In general, invidious display of pride of place is inhibited by another powerful sentiment. The name given it by Spiro, non-aggression, has a negative emphasis. Here, for no better reason than to emphasize the positive side, it will be called kindliness. Both positive and negative sides are unmistakably evident in native behavior.

The form of expression of this sentiment most emphasized by natives is courteous speech. This is regarded as particularly important in chiefs. There is a native saying that if the chiefs speak kindly, the people will live long; if they speak harshly, the people will perish. The texts of several songs in praise of particular chiefs emphasize their kindly speech. The value placed on this comes out in one detail of the pattern of public assemblies at which the chiefs harangue the people. The proceedings include a certain amount of scolding. But at the end, as if to take the sting out of this, the paramount chief usually cracks a joke or two. For example, at the meeting when the people were commanded to clean up the island, the joke came at the close of exhortations to defecate only in the sea, or in the "overwater heads" built to U. S. Navy specifications. "If any woman wants to defecate on shore," said the chief, "let her do it in a basket, then carry the basket out to sea." Like all the jokes uttered on these occasions, this was received with loud laughter.

The kindly forbearance enjoined upon chiefs by the sentiment of kindliness was illustrated by the one case witnessed of a dog biting a man and not suffering for it. The man was the No. 2 chief, Maroligar. He was playing—gently, so far as I could see, and he was in plain sight—with the dog of his colleague Toromann, Chief No. 5. Without perceptible provocation, the dog suddenly bit his hand. After the first "Yuk!" of surprise and pain—the bite drew blood—the chief smilingly insisted that this offense, which in every other instance we heard of was punished by death, be overlooked.

Though incumbent most of all upon the chiefs, the injunction to kindliness is by no means confined to them. After interpreting the legends about conquest of other islands, our interpreter was always careful to relegate such unpleasantness to the past. "Before, before," he would say, tilting his head back and raising his eyebrows to indicate the great lapse of time, "Not now." And he went on to explain that nowadays, when people from Ifaluk visit these neighboring atolls, or people from there visit Ifaluk, all is kindliness and hospitality. They never have to ask for food. "All same one people."

Rarely did we hear a voice raised in anger. Even indulgence in coconut toddy seemed to have only a mellowing effect. We never saw or heard of a "fighting drunk." In Arogeligar, oracle of the god, toddy seemed conducive to divine possession. In our interpreter, rather a testy old fellow as natives go, it soothed away all the sore trials we imposed upon him. When we called at his house of an evening, after the toddy had been circulating, he would beam on us with slightly bleared eyes, and tell us we were just like brothers to him. He did not know what he would do when we went away.

On rare occasions, under extreme stress, a man may find relief in violence. (I say a man, because no instance was found of a woman doing it. Children, yes; but before they are enculturated.) Even then the rule of non-aggression has sway; for the violence is directed, not against people, but against houses. In one of the favorite myths, Galett, whose wife had been stolen by another sky-dweller, blew his whistle furiously and laid about him with a stick, damaging the men's house of his island in the sky. In the text of one of the love songs, a jealous husband does the same. One such incident occurred while were there. A conscientious young man was constantly worried by the obstreperous conduct of his father, the troublesome psychopath, Tareveliman. When his mother was taken sick and died, the added grief was too much. He set fire to the house in which they had been living.

More substantial than these scattered observations are the results of some of the psychological tests administered by Spiro.[9] The quotations that follow are excerpts from his summary of the responses to the Stewart Emotional Response Test (S.E.R.T.) and the Bavelais Moral Ideological Test (B.M.I.T.):

> It should be noted, first of all, that in the S.E.R.T., 48 percent of the subjects found happiness in knowing that others were happy, and 31 percent of the subjects were saddened by the sadness of others.
>
> Second, it is found that anger is rarely evoked by interpersonal relations, nor because of the hostility of other individuals, but rather by an objective situation, such as lack of food or lack of an ability for which others were not responsible.
>
> Third, possession of property is the most often encountered response to the question "What is the best thing that could happen to you?" Yet . . . the reasons given for this answer are: it is good to have property, for then a man will be prepared should the chief request it; or, he will then be able to give gifts to people who visit his home. Thus, again, the emphasis on generosity and on giving to others is apparent.

9 Melford E. Spiro, *Non-aggression on Ifaluk* (Doctor's thesis at Northwestern University). Also discussed in a paper presented before the Central States Branch of the American Anthropological Association, 1949; and a paper listed, but not presented, at the annual meeting of the Association in Berkeley, 1950.

Fourth, most of the responses to the questions concerning the worst things that could befall a person fell into the category of interpersonal aggression, such as gossiping, lying, stealing, and others. It should be noted that thievery is first on the list of "worst things."

In the B.M.I.T., the overwhelming majority of praiseworthy acts are those of generosity, while most of those acts to be blamed are those of aggression.

It is also of interest to note that in the responses to both the S.E.R.T. and the B.M.I.T., in which aggressive acts are viewed as the most undesirable, physical aggression against persons is mentioned but once. One ignorant of the value system of Ifaluk might well interpret this to mean that physical aggression against people is not regarded as something bad. To the person who has knowledge of the culture, however, the interpretation would be just the reverse. For physical aggression is so completely absent from overt behavior, and the idea of it is so bizarre, that it did not even occur to Ifaluk subjects to include it as a possibility.

As to whether these verbal responses are consistent with overt behavior, Spiro has this to say:

Since many societies have ideal cultures that stress the values of coöperation, benevolence, and curtailment of aggression in interpersonal relationships, the fact that Ifaluk has such an ideal culture is not remarkable. What is striking about Ifaluk, however, is the fact there is no discrepancy between its cultural values (the ideal culture) and its actual behavioral patterns (the real culture). Not one individual could remember a single case of murder, rape, robbery, or fighting; nor did the ethnographer witness such behavior in his seven-month study. It was almost impossible to convey to the people the concept of murder, the thought of wantonly killing another person is so completely alien to their thinking.

In sum, to quote the opening sentence of Spiro's paper:

The inhabitants of Ifaluk . . . constitute a people who would take their place at the extreme end of an aggression–non-aggression continuum, almost as a polar type.

Fitting this evidence into the scheme being tested, it appears that the major positive value of the sentiment of kindliness is placed on kindliness itself, or good-will, as expressed in courteous speech, generosity, and coöperation. The major aversion is against ill-will, as expressed in harsh words, gossip, and such unfriendly acts as stealing or failure to coöperate—to say nothing of overt physical aggression, which seems almost unthinkable except in legends of the remote past.

The two sentiments discussed, as already noted, modify each other. The sentiment of kindliness imposes on persons of rank the doctrine *noblesse oblige*, restraining them from flaunting their superior status or abusing their authority. Together the two constitute a dynamic system which appears to deserve the credit for an amazingly successful government.

III

With most people on Ifaluk, then, the dynamic system of rank as restrained by kindliness seems to regulate interpersonal relations admirably. They know their place, keep within the bounds allotted to them, and do not worry about it. With a few, though, rank rankles; or more precisely, a shortage of it does.

Four examples stand out. They are:

1. Our interpreter, whose native name is Totogoeiti, but whom we always called Tom, the name given him during his years of sojourn among foreigners.
2. Arogeligar, leading oracle of the most influential god, Tilitr.
3. Truesai, son of the No. 1 chief.
4. Tareveliman, the psychotic whose case has already been examined by Spiro.

These four shared several characteristics that seem significant:

First, all were males. In a woman, evidently, any signs of rebellion against the established order would be so objectionable as to be effectively prevented.

Second, all came near to high rank without quite attaining it. Three of the four—all but Truesai—were of the second-ranking clan, Sauvelarik. Tom claimed to be next in line for the No. 2 chieftainship; but since the title-holder was younger than he, there was little chance of his succeeding to the title. Truesai's clan, since descent is matrilineal, was lowly Bwel. But since his father was the paramount chief, he came too near to glory, apparently, for comfort.

Third, all—with the possible exception of Truesai—had had more than the usual experience of the world outside of Ifaluk. Tom, in particular, was the most traveled and the most acculturated inhabitant of the atoll. Arogeligar and Tareveliman had both worked for the Japanese in the phosphate mines of Angaur.

Fourth, these were—to us and probably to the natives—the most conspicuous individuals on the atoll except for the chiefs, and at times outshone even them. They attained this prominence by a pushing or climbing kind of behavior which in our culture is rather encouraged, yet associated, in extreme cases, with the classical inferiority complex. Indeed, to venture an amateur diagnosis, inferiority complex may well be the name for what ailed these four.

Following is an outline of the evidence, in addition to their common characteristics, that suggests conflict, in these four cases, with the dynamic system of rank-kindliness:

1. *Tom.* A man of unquestionable ability, but even more remarkable for energy and ambition, Tom had won for himself the highest possible achieved status on Ifaluk, that of No. 1 navigator of sea-going canoes. In particular, he had been in charge of piloting at least half of the population of Woleai to Ifaluk, when the Japanese destruction of crops by clearing land for an airstrip and the further destruction of American bombing, made one islet on Woleai uninhabitable and threw too great a strain on the food supply of the rest.

Tom had also achieved another distinction, being recognized as one of the shipwrights who have charge of building sea-going canoes, the unrivalled masterpiece of native craftsmanship.

Several years in the shipyards of Manila had given Tom a knowledge of English that made him invaluable as an interpreter. Once I asked him to transmit to the chiefs the suggestion that the Japanese flag which was then painted in black at the top of the Ungarik (front post of the men's house) be replaced by an American flag in red, white, and blue; and that the name of a former chief, written in Japanese characters farther down the post, be replaced with the names of the present chiefs, in our kind of letters.

Tom said it would be very useful to visiting Americans if his name, as interpreter, were added to the list. Unwarily, I let him include that as part of my suggestion. The chiefs agreed, as always. But they saw, more clearly than I had, how displaying Tom's name on the Ungarik would tend to put him on an equal footing with themselves. Their solution was characteristic. Instead of having their names lettered directly on the post, they asked me to print them on a separate board. When it was finished, they announced that they would hang it on the Ungarik only when an American ship was in port.

Though scrupulous, as a rule, about the prerogatives of the chiefs, Tom chafed a bit under them. In particular, he pushed all claims for the glory of his clan, Sauvelarik. Once he even ventured to imply resentment of Kovalu's exclusive right to turtle meat. Speaking of one uninhabited island in the course of giving me his lore about navigation, he said that there are plenty of turtles there; and added somewhat sulkily that he loves to go there, because a man can eat all the turtle meat he wants.

Once Tom rebelled against an order of the chiefs, the only instance we encountered of such audacity. He was building himself a seagoing canoe. When we arrived, the chiefs assigned him to work for us as interpreter. Others were to carry on with the building of his canoe. But the others lacked his enthusiasm. Disgruntled at their slow progress, he finally said that if he had to work for us all the time, the canoe never would be finished. He went on strike, a foreign

form of behavior presumably new to Ifaluk. Before the first day of his strike was over, Spiro found him, gloomier than ever, because of "too much talk." The worst of it was that his wife had been scolding him for abandoning the nice Americans. Yet, in effect, he won the strike. The chiefs issued strict orders that work on the canoe was to be attended to more diligently. One of them, Toromann, himself gave a good example by helping with the work.

2. *Arogeligar.* Arogeligar was so prominent and so vocal on all public occasions, particularly all ritual ones, that we nicknamed him the "master of ceremonies." He had acquired the only honored position not attempted by Tom, that of oracle of the god Tilitr. When possessed by the god, he would roam the island, blowing a navy boatswain's whistle (whose sound is associated with the high trill the gods are supposed to utter), summoning his faithful attendants, the young men, to make garlands or exorcise some evil spirit by song, or do whatever else the god demanded. In all religious dances, he acted as one of the leaders and to some extent as a coach.

Not content with his prominence in religious matters, Arogeligar was avid of attention in other affairs where he had less right. Wherever men were gathered together, unless the chiefs were explicitly in charge, Arogeligar's voice rose louder and longer than any other. This made him somewhat ridiculous on occasions like repairing a canoe-house, for he was no master-carpenter. Most of the men took his vociferous instructions good-naturedly, though paying little heed to them. But Tom was stung to jealous disgust. "Big mouth!" he would say, "Big talk!" And once " 'E savvy god; no savvy nothing else."

3. *Truesai.* The third man apparently troubled by lack of rank was younger than the others, and accordingly less prominent. For his age, though, he was far the most prominent person on the atoll. This may have been partly because he was the son of Wolpetau, the No. 1 chief; but if so, the effect of this preëminence was indirect. Though not in line for the title, he had a chance, as a member of his father's household, to see at close range what it was to be first man on the atoll. He may even have basked in a little reflected glory. By contrast, his prospect of a future without distinction was bleak.

This may well be why Truesai made the most of the main advantage he had—physique. Among this slightly-built people he was conspicuously big-boned and stoutly muscled. His robust body was topped by a face strikingly good-looking, but in such a delicate way that the appropriate adjective is "pretty" rather than "handsome." Truesai, like Arogeligar, was an outstanding dancer. He resembled Arogeligar, too, in his love of finery. When the men decked themselves in feathers and flowers for a dance, or even for following the body of a relative from the

house to a canoe for sea-burial, Truesai's headdress and garlands outshone all others, unless Arogeligar himself was present. Truesai was recognized as heir-apparent to Arogeligar as oracle of Tilitr. He was leader of the young men in religious ceremonies. He had a high voice of pleasant quality, and in the most elaborate ceremony we saw, sang part of the song of invocation as a solo—the only solo passage in any of the communal singing we heard. Characteristically, he made the most of it—took off with a display of vocal virtuosity unlike anything else I heard in the native music. In the light of Arogeligar's example, this slighter evidence seems to bear a similar interpretation.

4. *Tareveliman.* The final example has been described by Spiro.[10] It remains only to point out bits in his account, and add one item not recorded there, which suggest that internal conflict about rank may have been one element in his psychosis. This does not in the least oppose Spiro's thesis that forced labor for the Japanese was the precipitating factor. Indeed, such extreme subjugation would have been all the harder to bear for one already morbidly sensitive about his personal dignity.

Relevant quotations from Spiro's article follow:

(p. 192) Q. What do they say about you?
A. My parents say that I am a chief.
Q. Don't you like that?
A. I don't like what the children say to me.
Q. Don't you like to be called a chief?
A. (The answer is apparently irrelevant.)

(p. 193. Bearing in mind that Maroligar, No. 2 chief, is a clansman and uncle of Tareveliman.)

Q. Do you like Maroligar?
A. When he talked bad to me, I did not like him. Now he talks good, I like him.
Q. Do you like the chiefs?
A. I am afraid of the chiefs.

(pp. 197-98. After an outburst of violence) . . . when Maroligar approached him with a rope, Tarev surrendered himself to him without a word. He voluntarily extended his hands, and Maroligar tied his hands and feet. After he was tied, the men attempted to take him into the house, but he fell to the ground. He began to shout at Maroligar, calling him a wicked man, saying that he was no chief for him and that he would not obey him. (The previous day, Tarev had insisted that he himself was chief.) . . . Maroligar had to leave the house, because the mere sight of him made Tarev violent.

10 Melford E. Spiro, *A Psychotic Personality in the South Seas* (Psychiatry, vol. 13, no. 2, 1950).

(p. 198) Q. Do you still think that you are chief?
A. I never said that.

The detail mentioned as not included in Spiro's account is simply the itinerary followed by Tareveliman on a walk he took during one of his outbursts; part of the itinerary, rather, for I do not know it all. One morning rather late in our stay, he came toward the men's house, near where I was working, with an entourage of worried male relatives. Well might they be worried, for Tarev walked straight into the overgrown tract about the site of the former men's house. It is the only time during our stay that any of the people violated the tabu on this tract. The others gathered beside the sacred place, urging him to come out, but did not venture to follow him. Though it is said that chiefs may go in, this time neither his kinsman Maroligar nor any other chief was present. Tareveliman took his time about coming out, and when he did, went straight to Uelepi, senior homestead of Kovalu clan, also taboo to outsiders. After that I lost track of his wanderings; but this successive violation of two of the strictest tabus seems deliberate; and since both tabus express respect for rank, suggests rebellion against that sentiment.

Though each of these items is slight as evidence, their cumulative weight suggests a similar interpretation for the weird moonlight dance recorded by Spiro.[11]

His hands were in the prayerful pose he often adopted, in imitation, he said, of the padre, and he was singing to and bowing before the wooden phallus attached to the pillar. Intermittently, he would spit on it. He continued this for some time, alternately bowing to the phallus and spitting on it.

Since the phallus was the culmination of the material symbolism of rank, this private rite may well express ambivalence toward that sentiment.

IV

Other dynamic systems will be sketched, for the sake of brevity, in tabular form. The names applied throughout—whether to dynamic systems, sentiments, or values—are those of their objects, using that term rather freely. The list of sentiments and values is far from complete. It merely indicates what seems well attested. To avoid repetition, the direct opposites of "values" are not listed as "aversions" unless listing them seems to make the synopsis clearer. In several cases, the decision to list in a negative or a positive way was arbitrary. One would do about as well as the other.

---

11 *Idem*, p. 202.

The kinds of evidence listed are mostly those that supplement verbal testimony, which is also available for all or nearly all of the items listed, whether in the form of chance remarks, of answers to questions asked in the course of interviews, or of responses to psychological tests.

I. Dynamic System Concerned with Sexual Love

Sentiment: Sexual fulfilment

Values	*Evidence*
Physical pleasure of sexual intercourse	Erotic element in ceremony celebrating first menstruation.
	Patterned courtship, expected to include sexual intercourse.
	Texts of serenades composed by women and sung, with an erotic dance, to their lovers.
Sexual adventure	Song texts about extra-marital affairs.
Marital devotion	Song texts, including laments and love songs.
Aversions	
Success of a rival Exposure in infidelity	Song texts concerned with jealousy.
	Secrecy about extra-marital liaisons.
	Disguise worn by women who appear, muffled in white to represent spirits, at final rehearsals of a certain dance and hang garlands on their favored dancers. (Disguise attributed to wish to prevent jealousy of husband, who may not be the one chosen.)

Sentiment: Propriety

Values	*Evidence*
Modesty	Care to avoid exposure of genitals. Avoidance of bodily contact between sexes (in particular, men may not touch women's breasts except in accepted love-making).
	Reticence with regard to sex in "mixed company"; especially when siblings, classificatory siblings, or clansfolk of opposite sex are together.
Good opinion of others	Song texts about gossip.

Gossip about others	Song texts about gossip.
	Prevalence of gossip.
Aversions	
Gossip about oneself	Song texts.
Incest	Absence of intra-clan marriages, shown by census and genealogies.
	Absence of mention in any love song of an incestuous affair.

II. Dynamic System Concerned with Life and Death

Sentiment: Well-being

Values	*Evidence*
Abundant food (especially as means to health; may also be symbol of good-will or of rejoicing over any success)	Feasts accompanying rites of invocation.
	Chanted prayer or incantation, in one ceremony, for good crops.
	Prayers of visiting Yap chief.
	Exhortations of chiefs to women to be diligent in gardening.
	Penalties ascribed to violation of tabus (ill-luck at fishing, failure of crops, withering of vegetation, typhoon, which destroys crops).
Health Life	Evidence for these values the same as for "Well-being," "Sickness," and "Death."
Aversions	
Sickness	Rite of invocation to bless a brew drunk as preventive medicine. Rite to ask for divine help in diagnosis and treatment of disease.
	Rites to prevent visitation of evil spirits, or to exorcise them (their main activity is inflicting disease).
	Divination, in one of its main uses: prognosis of disease.
	Song texts, especially laments.
Bereavement	Song texts, especially laments.
	Mourning behavior (stylized, yet, to the ethnographers, convincing evidence of intense feeling).
Death	Preventive behavior listed above.

Sentiment: Fertility

Aversion	*Evidence*
Depopulation	(Mainly verbal.) Concern over depopulation as evidenced by abandoned house sites, etc.
	High rank tentatively ascribed to women "because give people."
	Rejoicing over births during our stay (here facial expressions supplement verbal evidence).

III. Dynamic System Concerned with Seafaring

Sentiment: Interisland travel

Values	*Evidence*
Sociability	Song texts
New experience	Song texts
Success in navigation	Honor paid to accredited navigators.
Aversions	
Drifting off course; shipwreck; drowning	Elaboration of lore of navigation; especially ritual and incantations to control weather, to remember sailing directions, to obtain aid by divine possession, to keep canoe afloat, seams tight.
	Elaboration of craft of canoe-building; especially ritual and incantations to prevent leaking and sinking.
	Other evidence as for "Bereavement" and "Death."

Some difficulties in classification have been due to the possibility of listing particular items under more than one heading. For instance, it was a question whether to list "Seafaring" as a separate dynamic system, or as a sentiment within the system "Life and Death." Insofar as the values associated with travel induce the men of Ifaluk to risk death by putting to sea in their little canoes, these values pull against the great negative value (aversion), fear of death. In this respect the sentiment centering about seafaring belongs to the dynamic system "Life and Death." Yet the values of travel include fresh sights, renewing old acquaintances or love affairs, beginning new ones, winning recognition as navi-

gator or shipwright. These are hardly "matters of life and death." They suggest a variety of sentiments, not all of them listed. Whatever the best solution of this puzzle of classification may be, leaving "Seafaring" by itself as a dynamic system of only one sentiment, as in the list, is clearly not satisfactory.

One more difficulty of this kind is worth examining in some detail. Values concerned with property were not listed, because they seemed to fit about equally well in any of several places. A value of pride in possession of property is clearly attested, though much less conspicuous than in our culture. This value is evidently related to the sentiment of rank; at least pride in possession of property, like pride in possession of rank, enhances self-esteem. On Ifaluk both these manifestations of pride are restrained by the sentiment of kindliness or non-aggression. Another value concerned with property, that accorded to generous giving, is itself a manifestation of kindliness. As a permissible kind of display, giving is doubtless also a manifestation of pride. Like the other manifestations mentioned, giving is moderated by the sentiment of non-aggression; that is, it is rarely if ever competitive. Suppose we add "Pride" (or some related term) to the objects of the dynamic system "Rank-Kindliness." Then feelings about property—so far—clearly belong to the dynamic system "Rank-Pride-Kindliness."

Unfortunately for neat classification, "so far" in this case is not far enough. Pride in possession of property is most evident with regard to one kind of property—food-bearing land (coconut or breadfruit groves, patches of taro swamp). And abundance of food is deeply felt as a means to health and survival. So feelings about property—some of them at least—also belong to the dynamic system "Life and Death."

There is no getting away from it: a value can belong to more than one sentiment, a sentiment to more than one dynamic system. Does this mean that the scheme outlined at the beginning is a failure? No; as far as it goes, the scheme has served fairly well. The "borrowed elements" in it—the concepts of value, sentiment, dynamic system—seem to hold up. So does their arrangement in order of complexity. The main trouble is that relationships among emotional tendencies criss-cross in so many ways that no simple synopsis, like the list given above, can show more than a few of many relationships.

This demonstrated shortcoming of the scheme, looked at in another way, is the strongest evidence to hand of the validity of the last of our borrowed concepts, that of ethos. We have just seen that emotional tendencies are tied together every which way. Is that not another way of saying—does not the evidence go toward proving—that emotional tendencies on Ifaluk are structured into one whole? The overall unit thus brought dimly into view is the ethos of the culture.

If the ethos of Ifaluk has not been set forth here, at least it has been shadowed forth. At present it seems unlikely that an ethos will ever be fully described, any more than a culture is likely to be, or a language. Short of that, there is every reason to expect improvement. Early approximations like this should sharpen the tools for working with phenomena of this elusive kind. It seems reasonable to hope that in time specialists in this area can approach an ethos as confidently as other specialists now approach a collection of artifacts or a kinship system.

University of Connecticut
Storrs, Connecticut

A PRIMITIVE FOOD PREPARATION TECHNIQUE IN BAJA CALIFORNIA

HOMER ASCHMANN

THE HUMAN DIGESTIVE SYSTEM has difficulty in utilizing most of the starches which are readily available in the vegetable kingdom. Most cultures known today have rather complex technologies by which these starches can be cooked and converted into more digestible forms, the development of which must have involved a long series of experiments and discoveries. The following is a circumstantial contemporary description of what may well be one of the earlier stages in this development, recorded over two hundred years ago among the isolated and apparently exceedingly primitive inhabitants of the southern half of the peninsula of Baja California.[1] A free translation of the description follows:

A certain species of herb grows in particular localities when water is abundant. Its seed is a little larger than that of the anise, and is called *Teda*. The natives collect as much of it as they can because it is one of the best foods that they have. They

1 This description is taken from a long document entitled *Descripcion de la California* located in the Depósito Hidrográfico in Madrid. The document is tentatively dated at 1791, and appears to have been designed as a book, the publication of which never occurred. A footnote citation within the document attributes the passage to an anonoymous appendix which was forwarded to Spain by the secretary of the Mexican Viceroy along with a manuscript prepared by Padre Fernando Consag in 1742. The appendix appears to date from the same or slightly earlier times, but its whereabouts are unknown. A manuscript transcript of the entire *Descripcion* in the California Transcript Collection of the Bancroft Library at the University of California is the source of this description. The relatively archaic and awkward Spanish goes:

"Quando las aguas son abundantes nace en varios parages cierta especie de Hierbas, cuya semilla es poco mayor que el Anis, y le llaman Teda: De esta recojen los Naturales quanta pueden por que és de la mejor comida que tienen; y de ella guardan para ir comiendo desde Octobre en que la recogen, y los meses siguentes: La tuestan como qualquiera otra semilla, echando una porcion en una Batea que es del tamaño de una Zaranda, pero solida (la qual hacen de los Palos muy flexibles de cierta Mata pequeña, rajados en muchos partes, de modo que queden como correas, las que tejidas luego quedan bien solidas). Sobre la semilla echan brasas de fuego, y con ambas manos muevan la Batea para que se revuelvan las brasas con la semilla; mas de suerte que tostandose esta no se queme aquella. Despues de tostada van apartando las brasas que ya son carbones, y mucha parte de la semilla con el fuego há rebentado, descubriendo una Arina blanca. Despues ban limpiando la cascarilla que ha soltado la semilla, abentandola en las Bateas con destreza como hacen en España con el Trigo en las Zarandas y así limpia la muelen y comen hecha Arina, y la cuecen y hacen poleadas. La cuecen, digo, en estos tiempos en que ya tienen algunas ollas y algunas Mugeres que saben cocerlas, por que antes de su reduccion nunca comieron cosa cocida, por que careciendo de toda vasija para este intento, les era preciso ó tostarlas ó asarlas."

store it to eat during the months following October when it is harvested. The seed is toasted just like other seeds, by putting some in a flat basket about the size of the Spanish winnowing screen, but solid. (The baskets are made of flexible twigs of a certain small bush. The twigs are torn into several strips so that they are like thongs and these are woven into a solid surface.) On top of the seeds they put live coals, and with both hands they shake the basket so that the coals come up against the seeds, toasting them but not burning the basket. When the toasting is finished the burned out coals are removed. A major portion of the seeds have burst open, exposing a white meal. Afterwards the seeds are separated from the husks from which they have come, by dextrously tossing them into the air with the basket, just as wheat is winnowed in Spain. Thus cleaned they grind and eat the prepared meal. They also boil it and make fried cakes of it. Such cooking is a new development now that there is some crockery and some women who know how to cook. Prior to their reduction into Mission life the natives never ate any boiled food because they were completely lacking in any sort of vessel for this purpose. All food had to be either toasted or roasted.

The plant described above can be identified with some security as *Antigonon leptopus,* a vine of the buckwheat family, known today throughout northwestern Mexico as "Flor de San Miguel."[2] It grows in the better watered canyons in the mountainous parts of the southern half of Baja California, as far north as latitude 27° N. Seeds of the plant have been found associated with aboriginal cave burials south of La Paz.[3] *A. leptopus* produces hard shelled, conical seeds, three-eighths of an inch long and more than half as thick. It fruits heavily: a single raceme, of which each plant has many, will produce several ounces of seed. For its showy flowers, the plant has been taken over by our society as an ornamental, often called "Confederate Vine" or "Coral Vine," but its use as a food is not known. Thus it would appear to be another of the many potentially important food plants, known to primitive cultures, but ignored by Western civilization. It is curious to note that in eastern Europe buckwheat is sometimes prepared by a similar popping technique.

It is unfortunate that the account does not associate this food preparation technique with a particular tribe or tribes. The technique described may well have been utilized generally in the entire area in which *A. leptopus* occurs. The date of the manuscript and range of the plant localize the practice to areas south of San Ignacio, the most northerly mission on the peninsula in 1742, so that it can be associated with the southern Peninsular Yuman groups and/or members

2 Dr Carl O Sauer kindly provided the critical information for this identification.
3 Personal communication from William C. Massey.

of the Guaicurian Family.[4] The archaeological occurrence of *A. leptopus* seeds is in what was Cora territory at the time of European contact.[5]

The ethnographic data included in the description are worthy of note in view of the fact that the Indians of southern Baja California are extinct, and such fragmentary historic accounts are the major source of information concerning these peoples. There is an unequivocal denial of the use of pottery and of any form of stone boiling among the aborigines of the area. The basket-making technique, particularly the matter of splitting the twigs to make them more pliable and to make possible a tighter basket, is strongly suggestive of the method which can still be observed among the Diegueño of southern California. Though the account says that the baskets were woven (*tejido*), there is still the possibility that the reference is to coiled basketry like the fine Diegueño product. The peculiar broad, flat, tray-like shape of the baskets is established by the comparison with the *zaranda,* the Spanish winnowing screen. The reference to the storing of seeds contrasts with the repeated statements in the standard chronicles of Baja California[6] that the Indians were entirely dependent on the food they could gather from day to day.

The most striking bit of information, however, is the discussion of a primitive solution to the problem of making a more digestible food of the starch stored in seeds. The toasting procedure is described clearly, and the problem of whether one could cook by shaking over a fire an inflammable basket containing grain, as other descriptions[7] have been interpreted to indicate, is thus obviated.

Parching or roasting seeds with embers in pottery or basketry trays is a culture trait of rather wide distribution in the Southwest and California, where it occurs among both agricultural and non-agricultural groups.[8] As a cooking technique it requires considerable dexterity along with patience and attention. Where baskets are used there is a continual risk of a big economic loss should the toaster allow the live coals to rest on and burn through the basket, an artifact which would require many days in manufacture. It is hard to imagine a group devising this cooking technique if it had knowledge of some more efficient and

4 The terminology as to tribes is that suggested by W. C. Massey, *Tribes and Languages of Baja California* (Southwestern Journal of Anthropology, vol. 5, pp. 272-307, 1949).

5 *Idem,* p. 278.

6 Miguel Venegas, *Noticia de la California* (Madrid, 1757); Jakob Baegert, *Nachrichten von der Amerikanischen Halbinsel Californien* (Mannheim, 1772); Francisco Clavigero, *Storia della California* (Venice, 1789).

7 E.g. Venegas, *op. cit.,* p. 91: "Bateas . . . para tostar las Semillas, y Frutas con el afán de tenerlas en continuo movimiento, para no se quemen."

8 Leslie Spier, *Havasupai Ethnography* (Anthropological Papers, American Museum of Natural History, vol. 29, part 3, 1928), p. 123.

less risky method of rendering seeds fit for human consumption such as stone boiling or baking. The existence of this procedure among the people of Baja California is an indication of the importance attached to the maintenance of a carbohydrate element in the diet, even though at great effort. Shellfish and other sea foods, particularly abundant along the Baja California coasts, would yield far more calories with a smaller effort. While these highly concentrated foods were heavily utilized, they apparently did not meet all the dietary needs.

Among some Southwestern agricultural tribes, parching with embers appears to have been a secondary cooking technique, probably retained because of taste preference, and sometimes used in conjunction with boiling. The Cocopa, for example, used pottery trays to parch seeds of a wild grass, *Echinochloa crusgalli,* after a preliminary grinding.[9] Among the Havasupai, parching constituted just one of a long list of methods for cooking seeds. The list included boiling in pottery vessels, stone boiling, and baking a flat bread of ground meal.[10] The assumption that parching with embers as a cooking technique is a survival from pre-agricultural times is supported by the relatively wide distribution of the trait, particularly its occurrence among the culturally isolated people of southern Baja California, who possessed none of the more efficient cooking techniques.

Perhaps the most singular aspect of the roasting process as it is described for Baja California is the indication that not merely parching but popping occurred. This accomplished two purposes: it removed the indigestible cellulose shell from the *A. leptopus* seeds, and, by raising the temperature of moisture contained within the individual cells of the seeds' endosperms above the boiling point, performed a particularly thorough cooking operation. This may tie in which the singular fact that most primitive races of maize, the great American agricultural crop, seem to be popcorns.[11] Baja California is certainly no place in which to seek the origin of maize domestication. However, the recognition of an ancient tendency, widespread among American Indians, to work with plant seeds which would pop when toasted with live coals may throw some light on the problem.

Los Angeles State College
Los Angeles, California

9 Edward F. Castetter and Willis H. Bell, *Yuman Indian Agriculture* (Albuquerque, 1951), p. 190.

10 Spier, *op. cit.,* pp. 114-117.

11 Paul C. Mangelsdorf, *The Mystery of Corn* (Scientific American, vol. 183, no. 1, pp. 20-24, July, 1950).

of the Guaicurian Family.[4] The archaeological occurrence of *A. leptopus* seeds is in what was Cora territory at the time of European contact.[5]

The ethnographic data included in the description are worthy of note in view of the fact that the Indians of southern Baja California are extinct, and such fragmentary historic accounts are the major source of information concerning these peoples. There is an unequivocal denial of the use of pottery and of any form of stone boiling among the aborigines of the area. The basket-making technique, particularly the matter of splitting the twigs to make them more pliable and to make possible a tighter basket, is strongly suggestive of the method which can still be observed among the Diegueño of southern California. Though the account says that the baskets were woven (*tejido*), there is still the possibility that the reference is to coiled basketry like the fine Diegueño product. The peculiar broad, flat, tray-like shape of the baskets is established by the comparison with the *zaranda*, the Spanish winnowing screen. The reference to the storing of seeds contrasts with the repeated statements in the standard chronicles of Baja California[6] that the Indians were entirely dependent on the food they could gather from day to day.

The most striking bit of information, however, is the discussion of a primitive solution to the problem of making a more digestible food of the starch stored in seeds. The toasting procedure is described clearly, and the problem of whether one could cook by shaking over a fire an inflammable basket containing grain, as other descriptions[7] have been interpreted to indicate, is thus obviated.

Parching or roasting seeds with embers in pottery or basketry trays is a culture trait of rather wide distribution in the Southwest and California, where it occurs among both agricultural and non-agricultural groups.[8] As a cooking technique it requires considerable dexterity along with patience and attention. Where baskets are used there is a continual risk of a big economic loss should the toaster allow the live coals to rest on and burn through the basket, an artifact which would require many days in manufacture. It is hard to imagine a group devising this cooking technique if it had knowledge of some more efficient and

4 The terminology as to tribes is that suggested by W. C. Massey, *Tribes and Languages of Baja California* (Southwestern Journal of Anthropology, vol. 5, pp. 272-307, 1949).

5 *Idem*, p. 278.

6 Miguel Venegas, *Noticia de la California* (Madrid, 1757); Jakob Baegert, *Nachrichten von der Amerikanischen Halbinsel Californien* (Mannheim, 1772); Francisco Clavigero, *Storia della California* (Venice, 1789).

7 E.g. Venegas, *op. cit.*, p. 91: "Bateas . . . para tostar las Semillas, y Frutas con el afán de tenerlas en continuo movimiento, para no se quemen."

8 Leslie Spier, *Havasupai Ethnography* (Anthropological Papers, American Museum of Natural History, vol. 29, part 3, 1928), p. 123.

less risky method of rendering seeds fit for human consumption such as stone boiling or baking. The existence of this procedure among the people of Baja California is an indication of the importance attached to the maintenance of a carbohydrate element in the diet, even though at great effort. Shellfish and other sea foods, particularly abundant along the Baja California coasts, would yield far more calories with a smaller effort. While these highly concentrated foods were heavily utilized, they apparently did not meet all the dietary needs.

Among some Southwestern agricultural tribes, parching with embers appears to have been a secondary cooking technique, probably retained because of taste preference, and sometimes used in conjunction with boiling. The Cocopa, for example, used pottery trays to parch seeds of a wild grass, *Echinochloa crusgalli*, after a preliminary grinding.[9] Among the Havasupai, parching constituted just one of a long list of methods for cooking seeds. The list included boiling in pottery vessels, stone boiling, and baking a flat bread of ground meal.[10] The assumption that parching with embers as a cooking technique is a survival from pre-agricultural times is supported by the relatively wide distribution of the trait, particularly its occurrence among the culturally isolated people of southern Baja California, who possessed none of the more efficient cooking techniques.

Perhaps the most singular aspect of the roasting process as it is described for Baja California is the indication that not merely parching but popping occurred. This accomplished two purposes: it removed the indigestible cellulose shell from the *A. leptopus* seeds, and, by raising the temperature of moisture contained within the individual cells of the seeds' endosperms above the boiling point, performed a particularly thorough cooking operation. This may tie in which the singular fact that most primitive races of maize, the great American agricultural crop, seem to be popcorns.[11] Baja California is certainly no place in which to seek the origin of maize domestication. However, the recognition of an ancient tendency, widespread among American Indians, to work with plant seeds which would pop when toasted with live coals may throw some light on the problem.

Los Angeles State College
Los Angeles, California

9 Edward F. Castetter and Willis H. Bell, *Yuman Indian Agriculture* (Albuquerque, 1951), p. 190.

10 Spier, *op. cit.*, pp. 114-117.

11 Paul C. Mangelsdorf, *The Mystery of Corn* (Scientific American, vol. 183, no. 1, pp. 20-24, July, 1950).

KINSHIP SYSTEMS OF THREE CHITTAGONG HILL TRIBES (PAKISTAN)

CLAUDE LÉVI-STRAUSS

A SHORT VISIT to the Chittagong Hill tribes on the Bengal-Burma border in September 1950, while on a mission to Pakistan for the UNESCO Department of Social Sciences, enabled us to collect a few documents on these little known populations[1] including three lists of relationship terms pertaining respectively to the Čakma, the Kuki, and the Mog. These lists will be submitted in this paper together with miscellaneous information on related subjects such as social structure, preferential mating, and the like. Unfortunately, the kinship systems remained incomplete on account of the briefness of our stay in the native villages and the corresponding impossibility of checking on the lists of terms and filling in some obvious gaps with the help of genealogies. Imperfect as they are, they may be found to be a useful addition to the existing literature on neighboring or related tribes in Assam and Burma.

ČAKMA RELATIONSHIP TERMS*

1. *baba*	father
2. *mā*	mother
3. *aju*	father's father, father's mother
4. *nanu*	mother's father, mother's mother
5. *borobaba*	great-grandfather
6. *boroma*	great-grandmother
7. *pua*	son; 8. *dāŋgar*: first born; 9. *nukdóm*: second born; 10. *honet*: third born

1 C. Lévi-Strauss, *Le Syncrétisme religieux d'un village mog du Territoire de Chittagong* (to appear shortly in Revue de l'Histoire des Religions). Except for a sprinkling of short papers and notes, most of them outdated, our main source for the Chittagong Hill tribes remains T. H. Lewin's three books: *The Hill Tracts of Chittagong and the Dwellers Therein* (Calcutta, 1869); *Wild Races of Southeastern India* (London, 1870); *A Fly on the Wheel* (London, 1885) which contain approximately the same information. See also R. H. Sneyd Hutchinson, "Chittagong Hill Tracts" (in *East Bengal and Assam District Gazetteers*, Allahabad, 1909).

* Orthographic note: Because certain special type are not available, substitutions have been made in the author's scheme of transcription. *č* is substituted for *ǯ* with hook below (the sound *tch*); a *ʒ* with a circling tail has been used for *ʒ* with inverted caret above (*dj*); *ž* substitutes for *ʒ* with inverted caret above (*dz*); *ŭ* for *u* with breve below (the semi-vowel *u*)—EDITOR.

11. *mila* daughter
12. *natim* son's son, son's daughter, daughter's son, daughter's daughter
13. *dāŋgada* brother (older); 14. *ʂikūnda:* brother (younger)
15. *beiput* brother's son; 16. *beʐi:* brother's daughter
17. *pei* sister (older); 18. *būn:* sister (younger)
19. *bhagina* sister's son; 20. *bhagini:* sister's daughter
21. *ʐeta* father's older brother
22. *kaka* father's younger brother.
23. *ʐetatobai* father's older brother's son
24. *kurtotobai* father's younger brother's son
25. *ʐetatobūn* father's older brother's daughter
26. *kurtotobūn* father's younger brother's daughter
27. *mama* mother's brother
28. *mami* mother's brother's wife
29. *mamatobai* mother's brother's son
30. *mamatobūn* mother's brother's daughter
31. *piči* father's sister
32. *piʂa* father's sister's husband
33. *piʂtotobai* father's sister's son
34. *piʂtotobūn* father's sister's daughter
35. *mači* mother's sister (older and younger)
36. *muʐi* mother's sister's husband
37. *maʂtotobai* mother's sister's son
38. *maʂtotobun* mother's sister's daughter
39. *bō* wife
40. *ʂoor* wife's father
41. *ʂori* wife's mother
42. *boroʂala* wife's older brother
43. *ʂala* wife's younger brother
44. *ʐegat* wife's elder sister
45. *ʂali* wife's younger sister
46. *buʂi* elder brother's wife
47. *bebo* younger brother's wife
48. *bónai* elder sister's husband
49. *bōŋʐami* younger sister's husband
50. *nek* husband
51. *muʐa* husband's sister's husband
52. *labwoi ʂoʐun* reciprocal between men married to sisters

53. *ʒedi*	father's elder brother's wife
54. *kaki.*	father's younger brother's wife
55. *ʒiʂami*	daughter's husband
56. *pudobo*	son's wife

Observations on the Use of Čakma Terms

The Čakma kinship terms are, on the whole, Bengali, but the origin of a few terms remains doubtful, for instance *aju* and *nanu* (perhaps Urdu) for the grandparents; *nukdóm* and *honet* for the second and third sons; *ʒegat,* wife's elder sister; *labwoi ʂoʒun,* two men married to sisters (to be compared, however, with Bengali *sotin, sopotni:* co-wife).

On the other hand, there are noticeable discrepancies in relation to current Bengali use. Thus, *mila,* daughter, is Sanskrit *mahilā,* woman; the terms for great-grandparents are different from general Bengali though they consist in a combination of the Bengali terms for father and mother plus the qualificative *boro:* big, much. A similar observation can be made on the terms for brother (younger and elder). While *nek:* husband, is probably Bengali *nayak:* master, the term for wife: *bõ* is shifted away from its normal Bengali connotation: sister.[2] The term for younger sister: *bun* is rarely used, this relative being called by her name. The younger brother's wife *bebo* and the wife's elder sister *ʒegat* are prohibited relatives. One cannot either joke with them or address them. The opposite is true with the elder brother's wife *buʂi* and the wife's younger sister *ʂali* with both of whom one enjoys a joking relationship. There is a close connection between *labwoi ʂoʒun,* two men married to sisters, who work together and help each other.

Marriage and Social Organization

Theoretically, marriage is prohibited within seven generations. In practice it is allowed when no traceable relationship exists within the preceding three or four generations, and some informants stated that marriage can take place with father's sister's daughter, mother's brother's daughter, and mother's sister's daughter.

There seems to be a certain amount of avoidance between parents-in-law and son-in-law, but we could not find, within the short span of our stay, any trace

2 We are indebted to Prof Jules Bloch of the Collège de France for checking on Čakma terms of doubtful origin. T. H. Lewin has quoted some other terms which may not be Bengali. These are *lyngia,* "lover"; *langonee,* "mistress"; *sowalta,* "best man"; *sowullee,* "bridesmaid" (cf. T. H. Lewin, *Wild Races,* pp. 167-168).

of the bashful bridegroom attitude which has been described, in the past, for the Čakma.[3]

In case of marriage by elopement (*siŋgala* or *deiẓena*), the guilty couple is fined (*ẓorimana*) cash and a pig. The pig-fine is called *ṣokor*. But should the couple repeat their action three times and pay on each occasion the corresponding fine, the marriage becomes final and the girl's parents must abide by their daughter's choice.[4]

Ordinary marriage is by purchase, the bride-price including money, ornaments, cloth, pigs, rice, and rice-beer.

Marriage is ordinarily patrilocal except if a father "likes his daughter very much." In that case he insists on a special type of marriage (*ẓamaṭutha*) where, for the first year or two, the husband should reside at his parents-in-law's house and work for them; the bride-price is then considerably lower.

Political power belongs, among the Čakma, to a patrilineal lineage, where it is transmitted from father to first-born son. There are about thirty such lineages, which our informants called *gusti*.[5] Formerly once every year, now once every four or five years (on account of the heavy expense), each *gusti* celebrates an offering feast to the ancestors *(morabad dena)* during which possession scenes take place.[6] Members of the royal *gusti* are endowed with a magical power called *fi*. This power makes them and everything they may come in contact with highly dangerous for people of lesser status, especially commoners. As our informant (himself a member of the royal family) put it, this is "on account of all the gods we carry."[7] The result of this supernatural load is that while on a journey, a princely individual cannot rest in or even enter a commoner's house lest he bring upon it all sorts of calamities. Thus, he is obliged to remain outside in the heat and sun while his coolies enjoy the freshness and the shade. There are only two ways to escape from that awkward situation, the first one being to ennoble

3 T. H. Lewin, *Wild Races*, p. 178.

4 Already described in Hutchinson, "Chittagong Hill Tracts" p. 97.

5 The term *gusti*, which was the only one used by our informants, corresponds to the term *goza* (Sanskrit *gotra*) given by Lewin with the meaning "clan," "family." There were thirty-three *goza* among the Čakma plus seven for the Toungjynya, a subdivision of the tribe (cf. Lewin, *Hill Tracts*, p. 73).

6 Lévi-Strauss, *op. cit.*

7 This seems the appropriate place to express our gratitude to Mr Rai Bahadur Kumar Birupaksha Roy, a member of the Čakma royal family, who, through the kind offices of Col L. H. Niblett (at that time District Commissioner for the Hill Tracts), consented to become our companion and interpreter and without whose help the material of this and other forthcoming articles could not have been collected. Thanks should also be directed to Mr Aziz Ahmed, Chief Secretary, Government of East Bengal, and Asgar Ali, District Magistrate of Chittagong, who made our trip possible and altogether delightful.

the owner of the house; thus, he becomes able to bear contact with the perilous *fi*. Another process consists, on the part of the owner, of inviting the prince to enter his house. The latter should refuse several times and comply only when given a sum of money by his would-be host which he will return double later on. The *fi* appears to be neutralized by this double inversion of the original relationship between prince and commoner.

KUKI RELATIONSHIP TERMS

1. *pa*	father
2. *nu*	mother
3. *ū*	father's father, elder sister's husband, husband's elder brother
4. *pu*	mother's father, great-grand-father, great-grand-mother, wife's father.
5. *pi*	father's mother, mother's mother, wife's mother
6. *nau*	son, elder brother's son; 7. *umi:* first son; 8. *naumi:* second son; 9. *tomi:* third son; 10. *nlika:* fourth son; 11. *ḍṛnaka:* fifth son.
12. *ṣinu*	daughter; 13. *rolmi:* first daughter; 14. *milaị:* second daughter; 15. *tūŋka:* third daughter; 16. *nlika:* fourth daughter; 17. *gṛnaka:* fifth daughter
18. *topa*	son's son
19. *atu*	daughter's son
20. *atunu*	son's daughter, daughter's daughter
21. *un*	brother (elder), sister (elder)
22. *sopwi*	brother (younger), husband's younger brother
23. *sopwipa, sapa*	younger brother's son
24. *upanau*	elder brother's daughter
25. *sopwipanau*	younger brother's daughter
26. *ṣarnu*	younger sister
27. *nute*	sister's son
28. *papwi*	father's elder brother
29. *pate*	father's younger brother
30. *kapapwinau*	father's elder brother's son
31. *kapatenau*	father's younger brother's son
32. *kapapwisenu*	father's elder brother's daughter
33. *kapatesenu*	father's younger brother's daughter
34. *pute*	mother's brother, wife's brother, wife's brother's wife

35. *pite* mother's brother's wife
36. *ni* father's sister, husband's mother
37. *marāŋg* father's sister's husband, husband's father
38. *kəninau* father's sister's son
39. *kənisenu* father's sister's daughter
40. *nupwi* mother's elder sister
41. *nute* mother's younger sister
42. *kunupwinau* mother's elder sister's son
43. *kunutenau* mother's younger sister's son
44. *kunupwisenu* mother's elder sister's daughter
45. *kunutesenu* mother's younger sister's daughter
46. *dōŋ* wife
47. *putenau* wife's brother's son
48. *putesenu* wife's brother's daughter
49. *kodōŋgunu* wife's elder sister
50. *kodōŋgsopwinu* wife's younger sister
51. *kodōŋgsopwinupasal* wife's sister's husband, reciprocal term between men married to sisters
52. *kunu* elder brother's wife
53. *kaswapoipadau* younger brother's wife
54. *sopwinupasal* younger sister's husband
55. *kasarnupasalupa* elder sister's husband's brother
56. *kasarnupasalnaupa* younger sister's husband's brother
57. *samakpasarnu* sister's husband's sister
58. *kasarnupasalmrwi* husband's relatives (woman sp.)
59. *pasal* husband
60. *kopunaimrwi* wife's relatives (man sp.)
61. *kasamapa* daughter's husband
62. *amaunu* son's wife

Observations on the Use of Kuki Terms

There seem to be no terms for either mother's brother's son or mother's brother's daughter. This may be connected with the position of the latter as preferential mate. As a matter of fact, the terms for mother's brother's near relatives are very close to those for wife's family, e.g. *pu:* mother's father, wife's father, and more generally used as a term of respect, *pu-te* (*-te,* diminutive): mother's brother, wife's brother; *pu-te-nau:* wife's brother's son; *pi:* grand-mother, wife's mother; *pi-te:* mother's brother's wife. On the other hand *putesenu:* wife's

brother's daughter appears to be the object of a strong prohibition, a feature excluding any secondary preferential marriage of the Miwok type. *Kodõŋgunu:* wife's elder sister, is equally prohibited, but there is a joking relationship between a man and his *kodõŋgsopwinu,* wife's younger sister.

The terms quoted above show a general trend toward raising matrilineal relatives through males one generation. There is in Lushai a corresponding trend to lowering by one or two generations the patrilateral relatives through females, merging them under the general name of *tu* which in both systems is used for the grandchildren.[8] Our Kuki material does not show the latter tendency on account of the use of special terms for father's sister's husband and patrilateral cross-cousins.

A remarkable feature of the system is the development of descriptive terms. Even if some of these were made up by the informants in order to answer our queries, the ease with which they were able to describe impromptu any kind of relationship by creating new terms would be by itself striking. For instance *kodõŋgsopwinupasal: ka;* relation to the speaker; *dõŋg:* wife; *sopwi:* removed; *nu:* feminine; *pasal:* husband, i.e. wife's sister's husband, or two men having married sisters. Again, *kasarnupasalnaupa: ka:* relation to the speaker; *sarnu:* sister; *pasal:* husband; *nau:* male; *pa:* father, i.e. sister's husband's brother, etc.

Social Organization

The Kuki of the Chittagong Hill Tracts are divided in moieties called respectively Paŋkho and Banʒogi. Men belonging to each moiety wear their hair (which is usually left long) differently: with a bob on the forhead *(makter somor)* for the Banʒogi, and with a bob on the nape of the neck *(nuŋter somor)* for the Paŋkho.

The natives state most emphatically that these moieties are not exogamous. The only function of which they seem to be aware is that chiefs are generally chosen from among the Paŋkho. However, villages are exogamous, and there is preferential marriage with mother's brother's daughter, while father's sister's daughter is avoided. Polygyny is allowed, but stepdaughter marriage is strictly prohibited. Since moiety affiliation follows the father's line, the result is that moieties tend to be exogamous though in an indirect way. Another consequence of the system (of which the natives seem to be equally unaware) is that, on account of village exogamy and patrilocal residence, the adult male population of any village (and the children of both sexes) tend to be predominantly either

8 See for instance Lorrain and Savidge, *Grammar and Dictionary of the Lushai* (Shillong, 1898).

Paŋkho or Banʒogi. For instance in the village of *Dralaukhan-para* (in Čakma: *Boṣõnto*), where we spent a few days, the unmarried adolescents' dance (*lam*) which we witnessed included twelve participants (three girls and nine boys) out of which only three were Banʒogi (two boys and a girl) and all the others Paŋkho.

The mother's brother is highly respected, and there seems to be a period near puberty when uterine nephews and boys occupying the same status have no other duty than to comb and beautify themselves with flowers and ornaments and to play the rôle of attendants and cup-bearers at their uncle's home. In the case which we observed, the two boys who were occupying a position of that kind at the village headman's house were respectively his brother's son and his sister's son's son.

It may be interesting to give the main links of each household of the village (seven altogether) with the headman:

1. Headman, wife, daughters, son, son's wife and baby;
2. Headman's elder daughter and son-in-law;
3. Headman's sister's son and family;
4. Headman's elder daughter's father-in-law;
5. Headman's younger brother, wife, and child;
6. Headman's younger brother's son-in-law, wife, and child;
7. Headman's classificatory brother's son and family.

Altogether, forty-six persons including 16 men, 15 women, 3 unmarried girls, 4 unmarried boys, 8 small children.

Marriage is by purchase. The price for a chief's daughter is approximately Rs 250, less the value of the gongs (*darkwaŋ*; obtained from Burmese Buddhist monasteries) and buffaloes which would be in any case preferred to money. This is little surprising since buffaloes are reckoned in the marriage price on the basis of Rs 50 per head, while their ordinary trading value per head can go as high as Rs 300.

The bride's father gives his daughter clothes and ornaments consisting of amber necklaces *(sana)* traded on the Burma and Assam borders, silver necklaces of Indian craftsmanship bought in the bazaar, and girdles made of numerous rings of copper tubes. Thus, it was perhaps as an inducement to prospective bridegrooms that the headman's two unmarried daughters were continuously wearing several pounds of jewelry.

Marriage is patrilocal except if the girl's father has no son. In that case he

gives his daughter in marriage matrilocally, a system which is called *samkúm alutkɔ*.

When a woman dies, her jewelry is disposed of in the following order: son–daughter–husband–father.

When a man dies, the son who is at the moment living in the homestead inherits it. Those who have already left it have no right whatsoever. The widow does not inherit, but the son has the duty to support her.

In case the first three sons have married and left the homestead, the fourth son is obliged to remain with his parents. He will also inherit the house and the cattle. This fourth son's compulsory inheritance is called *naučemmi*.

Some reference was made during our stay to a naming feast, *nau rming pó*. The child's father must offer three pots of rice-beer *(ʒupwi)* and sacrifice a cock. He nominates an individual to act as name-giver *(rming oŋpo pera)*.

When a hunter kills a deer, a boar, or a bear, he must give a feast of meat to the village and provide rice-beer and rice.

An adulterer is fined a pig.

Unlike the Čakma and the Mog, the Kuki do not acknowledge marriage by elopement. In case an elopement takes place, the culprits are fined Rs 20 each.

MOG RELATIONSHIP TERMS[9]

1. *aba, ada*	father
2. *aiun*	mother
3. *napuse*	father's father
4. *iókma*	mother's father
5. *abṍŋ*	father's mother, mother's mother
6. *sa*	son
7. *səmi*	daughter
8. *mriŋ*	son's son (daughter's son)
9. *səmimamriŋ*	daughter's son
10. *mriŋma*	son's daughter, daughter's daughter
11. *kugri*	brother (elder); 12. *niense:* brother (younger)
13. *kugrisa*	elder brother's son, father's brother's son
14. *kugrisəmi*	elder brother's daughter, father's brother's daughter
15. *niensa*	younger brother's son
16. *niensemi*	younger brother's daughter

9 A few Mog kinship terms somewhat different from our list may be found in Sten Konow, *Notes on the Maghi Dialect of the Chittagong Hill Tracts* (Nachrichten über Angelegenheiten der Deutschen Morgenländischen Gesellschaft, vol. 57, 1903).

17. *megri* sister (elder)
18. *na'ma* sister (younger), wife's brother's wife
19. *tu* sister's son, wife's brother's son
20. *tuma* sister's daughter, wife's brother's daughter
21. *abagri* father's elder brother, mother's sister's husband
22. *abese* father's younger brother
23. *mamu* mother's brother, father's sister's husband
24. *arisa* mother's brother's wife, father's sister
25. *ɨopa* mother's brother's son, wife's brother
26. *məɽi* mother's brother's daughter, father's sister's daughter
27. *asãŋgri* father's sister's son
28. *agrima* mother's elder sister
29. *aɨema* mother's younger sister
30. *miɨa* wife
31. *sogõŋ* wife's father, husband's father
32. *sogõŋma* wife's mother
33. *məɽise* wife's elder sister
34. *krêma* wife's younger sister, sister's husband's sister
35. *ako* wife's elder sister's husband
36. *niɨen* wife's younger sister's husband, sister's husband's brother
37. *lãŋ* husband
38. *aʃiãŋ* husband's mother
39. *osõŋ* reciprocal between men married to sisters
40. *səmã* daughter's husband
41. *kuma* son's wife

Observations on the Use of Mog Terms

As with the preceding systems, familiarity with the wife's elder sister *(məɽise)* is prohibited while there is a joking relationship with the younger sister *(krêma)*.

Throughout the system one notices a consistent use of a few terms as suffixes, e.g., *-gri:* elder; *-se:* remote or distant; *-sa:* son; *-səmi:* daughter; *-ma:* female. The ending -ŋ seems to be reserved to the third ascending or descending generation and to affinal kin.

The natives state that the ideal spouse for a man is his *məɽi*, i.e. the bilateral cross-cousin, a type of marriage well grounded in the terminology as shown in the equivalences of terms 18, 19, 20, 21, 23, 24, 25, 26, 34, 36, and in term 33: *məɽise* for wife's elder sister. Such being the case, it is surprising to find special terms for parents-in-law (31, 32, 38): the term for wife's mother is different

from that for husband's mother (32 and 38) while the same term (31) applies to both wife's and husband's fathers. This could perhaps be explained as the result of a conflict between male and female terminology (compare *aṣiāŋ:* husband's mother and *asāŋgri:* father's sister's son, for speakers of both sexes), a feature which the main characteristics of the social structure could well support, as will be shown. On the other hand, the shift t/k in *kuma:* son's wife, and *tuma:* sister's daughter, wife's brother's daughter, remains unexplained.

Social Organization

The Mog, who call themselves *Mɔrma,*[10] appear to be divided into numerous clans (*ʒaʒaisa*), patrilineal and agamic. The Chief *Hladwāŋg*'s village (on the right bank of the Karnafully River about two miles inland and twenty miles downstream from Rangamati), where we spent a few days, included about one hundred eighty persons belonging to two clans, *Rigiesa* and *Kiōprusa.* Other clans represented in southern villages included the following:

Palaiŋsa	*Oiūŋsa*	*Ok'sa*
Kōgdēŋsa	*Čerīŋgsa*	*Raīŋbrisa*
Parāŋŝa	*Pōlaksa*	*Sapṛegia*
Lōŋg'dusa	*Rwakoinŝa*	*Saiṇ*
Marōsa		

The *Kiōprusa* clan is said to be the oldest settled in the Hill tracts, while the *Rigiesa* came later from Arakan and submitted their predecessors to their rule. We were told that of the two Mog traditional chiefs, the "Bohmōŋg" chief belongs to the *Rigiesa* and the "Mōŋg" chief to the *Palaiŋsa.*

Only two of the above clan names were mentioned previously in the literature. They are the *Palaiŋsa* and the *Kōgdēŋsa,* transcribed by Lewin as *Palaingtsa* and *Kowkdyntsa.*[11] The natives could not suggest any differential function for their clans though they mentioned dialectal and other peculiarities (especially in the way of wearing the turban) which made it possible in the past to distinguish one clan from the other. However, the clans remain sufficiently important for the first question, addressed to a newcomer, to be *ʒatāŋsale,* "Which clan do you belong to?"

Although clans are patrilineal there are several indications suggesting matrilineal trends or remnants in Mog society. It is said that Arakanese Mog are

10 Cf. E. Riebeck, *The Chittagong Hill-Tribes: Results of a Journey made in the year 1882* (A. H. Keane, tr., London, 1885).

11 Lewin, *Wild Races,* pp. 146-149.

matrilocal. This is not the case in the Chittagong Hill Tracts; however, inheritance rules still distinguish between "male goods" (*iokia wain*) including the house, goats, cattle, and land which go from father to son, and "female goods" (*min ma wain*) consisting in ornaments, jewelry, female dresses, spinning and weaving apparatus, fowl and pigs which go from mother to daughter. Usually the first-born son is the main heir except if he has already left the homestead; in that case the male inheritance goes to the youngest son who is always favored in relation to his intermediate brothers.

Girls appear to enjoy a great freedom in their choice of a husband. Should two young people lack their parents' consent and elope, they would be fined Rs 100 or more, but after this formality the marriage is held to be valid. Therefore the Mog go still farther than the Čakma in the acknowledgement of elopement as a normal way to contract a union.[12]

When we visited the Hill Tracts, the Mōŋg chief of Maničori was said to be an elderly woman who had been ruling for many years, her father lacking male descendants. However, this "lady-chief" had a son who it was understood, we were told, would succeed her. Since our informants were quite positive that a man would be succeeded by his brother before his son, we have several converging indications that the agnatic family may not exist among the Mog.

On a more psychological level, one is struck by the great freedom enjoyed by women, contrasting with both the Hindu and the Muslim patterns which have permeated Čakma society to a greater extent. Mog women mix freely with men, and they do not even avoid foreign visitors. In the chief's house where we stayed lived a divorced son, and another divorced young man was living in the same village. In both cases divorce (*kwair*) took place at the woman's wish and without the husband's consent. The divorce fine (*razuai*) is simply doubled if one party's consent is lacking. In the last case, the wife was said to have remarried five times.

École Pratique des Hautes Études
Sorbonne, Paris

12 See above, p. 43.

PALEOANTHROPOLOGY OF THE U. S. S. R.[1]

G. F. DEBETS

THE OLDEST TRACES OF MAN[2]

THE REPUTEDLY EARLIEST FINDS were those of V. A. Kholovkina in 1934-1935—"eolithic" flints discovered in an Upper Pliocene gravel bed near Matveev kurgan beside the Sea of Azov. This site requires further detailed examination.

The most ancient traces of man which can be established were discovered by S. N. Zamiatnin in 1937 on the Black Sea coast. Eight Acheulian sites yielding typical handaxes and many rejects and flakes were recorded. The lowest stratum was contemporaneous with the fourth terrace, which is pre-Rissian according to V. I. Gromov. The lowest level in Kiik-Koba cave in the Crimea has also been attributed to the Acheulian, although the implements tended to be smaller than the average handaxes. In 1940 G. A. Bonch-Osmolovskii was inclined to date this "amorphous" phase to pre-Acheulian times, but this view is not shared by most prehistorians. Beyond the limits of the Caucasus and the Crimea pre-Mousterian data are lacking. However, in 1937 Zamiatnin ascribed tentatively to this early period a flake found in 1934 at Besergenovka near Taganrog.

Mousterian sites have been located on the Black Sea coast, in the Crimea, on the eastern European plain, and beside the Dnieper (Kodak) and the Kuban rivers. Other finds of less certain Mousterian age have been recorded near the Don, by Talitskii in 1940 at the mouth of the Kama, by Polikarpovitch in White Russia, and by Voevodskii in 1940 on the Desna River.

The last are of especial interest since they were found under the moraine in the area of the maximum ice sheet. According to most European specialists (Boule, Obermaier, and others), the entire Lower Paleolithic belongs to the period after the maximum extension of the ice. From this point of view the territory of the USSR settled by man may be represented as a continuous widening of its spread to the north. Soviet archaeologists, especially Gorodtsov (1923) and Efimenko (1934), follow a variant of Penck's chronology less acceptable to the West, synchronizing the Mousterian period with the peak of

1 This monograph was published in Moscow in 1948. Summaries of Chapters 2-6 as translated by Mrs Kathleen Price and edited by Henry Field, are presented here.

2 The only primate yet found was a Miocene ape (*Mesopithecus*) referred to by Menzbir.

Riss glaciation. In 1936 Gromov even considered that the maximum glaciation coincided with the beginning of Late Paleolithic. In this case the settling of the Soviet Union appears as a far more complicated process, characterized not only by the widening but also by the shortening of the area in connection with the moving forward of the ice sheet during its maximum extension. The finds on the Desna River are one of a series of facts which confirm this point of view.

In the Asiatic part of the USSR the first find of a Mousterian man was made by A. P. Okladnikov during 1938 in southern Uzbekistan.

As yet no specific distinctions of Mousterian culture in the Soviet Union have been established in comparison with those of Western Europe. On this level the development of the technique of flint craftsmanship in general evidently does not give substantial differences in various regions.

Species and Transitional Forms

(a) The so-called "fossilized brains," the most ancient relics ascribed to man, were found during 1925 at Odintsovo railroad station near Moscow by N. A. Grigorovitch. At a depth of about 10.0 m from the surface, two fossils, reminiscent of human brains, were found in a clay quarry. These had suffered considerable deformation. A number of Soviet and foreign anatomists have investigated the finds, both originals and casts, and have observed their remarkable resemblance to human brains. According to B. K. Hindze, the French anatomist Anthony maintained that there is no doubt about the correctness of the recognition of the finds as being fossilized human brains. A number of other investigators held the same opinion. However, several expressed a doubt about their being human brains and imputed them to some other mammal. A preliminary analysis of the microsections pointed to the presence of morphological elements of an organic origin. The very fact of the possibility of the fossilization of a brain appears indisputable although it has provoked many doubts: fossilized brains of excavated elephants are known from other regions.

On the other hand, geological data completely break down illusions which have been formulated. According to S. IAkovlev and G. F. Mirchinka, the objects were not found in their original stratum, but had been brought from some other place. The gray clay, in which the finds were lying, is of the Mindel-Riss glaciation, but the fossils probably fell into this quarry, having been transported by a glacier, and previous to that had been washed out by water from earlier strata.

Man of the Mindelian or even of the pre-Mindelian period, endowed with a large brain and moreover having lived somewhere north of Moscow, is beyond

the wildest imagination. Therefore, the hypothesis that the Odintsovo finds represent fossilized brains of Quaternary man must be discarded. Two possible explanations remain: (1) Concretions in which the *lusus naturae* appears in an unusual form; (2) Fossilized brains of an animal which was characterized by many convolutions which are not exclusively a human character. In any event the Odintsovo finds are not of primary interest to paleoanthropologists.

(b) *Kiik-Koba.* The oldest human remains appear to have been found during 1934 in the upper stratum of Kiik-Koba cave in the Crimea. According to G. A. Bonch-Osmolovskii (1926-1940) the foot bones show typical Neanderthal structure, several of their peculiarities being even more clearly expressed than in the European Neanderthalers. A curious feature may be observed in the structure of the wrist, which is also known among western European Neanderthalers: the metacarpals of the thumb do not possess a saddle form as does that of contemporary man but forms a condyle which evidently limited opposability. Associated with the remains of an adult male skeleton, the skeleton of a child without the skull was also found at Kiik-Koba. Bonch-Osmolovskii has not yet reported on it.

(c) *Teshik-Tash.*[3] During 1938 A. P. Okladnikov, while excavating Mousterian deposits in the cave of Teshik-Tash in the valley of the river Turgan-Darya, about twelve miles from Baisun, found the skeleton of a child from eight to ten years old. The cranial capacity was estimated at 1490 cc. The supraorbital crest, although small, shows characteristic Neanderthaloid development. The basi-bregmatic height is 132.0 mm. The total facial height is 104.0, the upper facial height being 65.0. The greatest breadth of the skull is 125.0. However, these measurements do not exceed the limits of variation among modern children. The fossa canina is absent as among adult Neanderthalers of western Europe. The orbits are round. The nasal breadth is 29.0 and the nasal index 65.9. The lower margin of the piriform aperture is sharp. The nasal profile is prominent, although less than among some European children. The mandible is massive, the bigonial breadth being 123.0. Chin protrusion is absent.

According to a series of indications, including a large cranial capacity, the absence of thickening of the browridges near the external crests, and a protruding nose with a sharp piriform aperture, the Teshik-Tash skull is in general similar not only to the Neanderthalers but above all to the Europeans and is distinct from Asiatics (Ngandong) and African representatives of this species.

3 For photographs of Gerasimov's reconstruction see Henry Field, *Illustrations of the Teshik-Tash Skull* (American Journal of Physical Anthropology, vol. 4, pp. 121-123).

The world-wide importance of the Teshik-Tash find consists in the fact that it supports conclusively the position that the Neanderthal type represents a stage in the development of man and is not a side branch of evolution.

In addition to Kiik-Koba and Teshik-Tash, there are other cranial fragments of indeterminate age.

(d) *Podkumok Calvarium.* At Piatigorsk a calvarium and other fragmental human bones, including part of the mandible, were found in 1918 during sewer construction. M. A. Gremiatskii, who described these finds in 1922, attributes them to the Würm glaciation on the basis of the age of the terrace where the bones were found. However, other evidence points to the conclusion that these bones belong to the Paleometal epoch. P. P. Efimenko agreed in 1941 that the possibility of assigning these remains to the Mousterian period or to any part of the Paleolithic is now seriously challenged.

Morphologically, this calvarium is characterized by the strong development of the supraorbital crest, which does not become less prominent at the external margins. This is an indubitable Neanderthaloid sign, although it is occasionally encountered in the skulls of *Homo sapiens.* The chin protuberance is clearly expressed.

Gremiatskii's general conclusion is that these fragments belonged to a transitionary type between Neanderthal and modern man. With this hypothesis many western European anthropologists agree, as for example Sollas (1925), Weinert (1932), and von Eickstett (1934). However, Keith maintained that Podkumok man represented "the completely contemporary (Neoanthropic) species."

(e) *Khvalynsk Calvarium.* Another calvarium, which Weinert refers to the same type as Podkumok, was found near Khvalynsk on the Volga. Its morphology is not described in detail, but from a preliminary glance at the data, it unquestionably belongs to the type *Homo sapiens.*

(f) *Skhodensk Calvarium.* This fragment, described in 1936 by O. N. Bader in a preliminary report, is somewhat more primitive. In contrast to the Khvalynsk and the Podkumok finds, its geological age arouses no doubt. It was found on the left bank of the river Skhodnya, a left tributary of the Moskva, about one mile from its mouth. This calvarium was lying directly upon the Jurassic clay, somewhat detached from its original position in the stratum as early as the Quaternary and covered with alluvial deposits from the river Skhodnya. These deposits are attributed by G. F. Mirchink to the end of the Würm glaciation. We have, therefore, the relatively rare case when a paleoanthropological find appears to be earlier than the archaeological data, which, for the given epoch, are unknown in this region.

POST-GLACIATION SETTLEMENTS

Upper Paleolithic sites are far more widely distributed than those of the Mousterian period. In addition to sites along the Black Sea coast, they are known in Transcaucasia, in the basins of the Dnieper and the Don, on the Kama, in the central Urals, and finally in a number of regions in Siberia.

If up to now it has been very difficult to speak of regional differences in earlier epochs, in the Upper Paleolithic it is quite possible to differentiate "cultural provinces." Unfortunately, for a long time Soviet archaeologists did not concentrate their attention on this side of the question. Until the present, methods have not been followed which would permit distinguishing characteristic features conditioned by culture contacts. Therefore, I will limit myself to general conclusions on this matter.

In the type of development of flint tools, sites in the Crimea and Transcaucasia are close to the "Capsian culture" of the Mediterranean of which the basically distinctive features are the absence of Solutrian and Magdalenian forms and the direct connection of tools of Aurignacian type with Tardenoisian.

The sites in the basins of the Don and Dneiper have another character. In general, they are closer typologically to the western European, especially to the Danubian stations.

According to Efimenko (1928), later sites revealed two phases: (a) the western phase of the Dnieper basin, with a rich flint inventory and numerous bone objects; and (b) the eastern of the Oka and the Don basins, where are preserved primitive types of less differentiated flint techniques.

Talitskii made an interesting observation in 1940 that the flint industry discovered by him at the site near Molotov at the mouth of the river Chusov is similar to the Siberian Paleolithic and is sharply distinct from Upper Paleolithic sites of the eastern European plains. This observation deserves the most careful verification and further examination.

The typology of the Siberian Paleolithic flint industry is very original, and it fits badly into the classificatory framework not only of the western but also of the eastern European Paleolithic. In 1934 Sosnovskii, on the basis of his study of inventories at Siberian sites, distinguished three periods: (a) early, (b) middle, and (c) late. Up to this time the first has been found only in the valley of the Angara. Of these the most remarkable is the Malta site (described in 1935 by Gerasimov) where a great number of female statuettes fashioned from mammoth ivory and similar to those from western Europe were found. The typology of the flint implements resembled most closely the Aurignacian. On this site the

burial of a child with numerous bone ornaments was found. The skeleton was very poorly preserved and cannot be uesd for anthropological observations. According to Gerasimov it is characterized by dolichocephaly. Sites of the middle and late periods of the Upper Paleolithic are known in the region beyond Lake Baikal, near Irkutsk, in the valley of the Yenisei between Minusinsk and Krasnoiarsk, and at several points in the basin of the Ob. The flint industry of these sites is very original. Tools of archaic forms predominate: scrapers, pointed tools, and even handaxes were found. For this reason one of the best studied sites of the middle period, Afontova Mountain (below Krasnoiarsk), was previously considered to be Mousterian. Later research has established the view that the strata in which the tools were bedded were Upper Paleolithic and also that the bone objects were similar to Magdalenian from western Europe. Furthermore, a site with archaic industry proved to be later than Malta on the basis of geological and paleontological evidence.

Savitskii observed the close resemblance between the industry of the Siberian sites of the middle and later periods with Paleolithic tools from China and Mongolia. A satisfactory explanation has not yet been found.

There is an even wider diffusion of early Neolithic sites, characterized by the Sviderskian industry. In addition to the Crimea and the Ukraine, these sites are known in White Russia, in the basin of the Oka, and on the upper Volga. Traces of the Sviderskian phase occur along the lower course of the Volga. Outside the Soviet Union the nearest analogy is in the Baltic region. The Sviderskian complex was described in 1934 by M. V. Voevodskii, who regarded the Sviderskian sites as a stage preceding the Tardenoisian and common to all human settlements of part of eastern Europe. For a long time it was possible to assume that the farthest north of the European part of the Soviet Union was not settled in the early Neolithic period, corresponding geologically to Lake Ancylus of the Baltic. However, recent finds of an "Arctic Paleolithic" in Finland and in the Kola Peninsula by Zemliakov revealed an archaic industry, dated geologically to a time not later than the Ancylus stage.

HOMO SAPIENS IN THE STONE AGE

Upper Paleolithic human remains are rare. Detailed descriptions by A. P. Pavlov of the Undor calvaria are of little interest. Pavlov followed Galley Hill in his reconstruction.

In the Aurignacian levels at Korman on the Dniester River in Bessarabia Botez found in 1931 and described part of a right scapula, probably female. At Devis-Khvreli in western Georgia G. K. Nioradze in 1934 found part of a man-

dible associated with Aurignacian implements. The jaw has a well-developed chin.

At Siuren in the Crimea G. A. Bonch-Osmolovskii in 1934 found the root of a tooth of *Homo sapiens* in an Aurignacian deposit.

At Afontova Mountain, G. P. Sosnovskii and N. K. Auerbach found fragments of the upper extremities, a phalange, and a tooth. In 1924 V. I. Gromov was the first to ascribe them to *Homo sapiens*. Further detailed analyses carried out by M. P. Griaznov supported this opinion. The following fragments were described: (a) lower third of left scapula; the epiphysis is distinguished by massiveness with the greatest width 64.5 mm; (b) upper third of left radius with a strongly developed radial tuberosity. Angle of deflection of neck equals 164.5°, which is close to the largest found among Neanderthalers but does not exceed variations among *Homo sapiens;* (c) upper epiphysis of left ulna; (d) second phalange of second (?) finger of hand; (e) second upper left premolar. This belonged to another individual, aged eleven-fifteen. In general, all measurements are moderate. There is no doubt that the fragments belong to *Homo sapiens.*

During an excursion to Afontova of the Seventeenth International Geological Congress in 1937 J. Fromage, a French geologist, found part of a supraorbital crest and fragments of the nasal bones in one of the lower horizons. Fromage commented on the small, flat nasal bridge, a characteristic Mongoloid feature. My measurements support this diagnosis. The thinness of the bone and other characters indicated the youthfulness of this individual. For comparison, Chukchi and Osete crania (aged 8-18) have been examined. The results obtained show that the nasal bridge of the Afontova fragment is much flatter than even those of the Chukchi and of the Osetes. Therefore, it is possible to form the opinion that the flat nasal bridge is one of the typical Asiatic criteria and that this was already developed at the end of the Upper Paleolithic period. No less interesting was the finding of fragments of Mongoloid crania in central Siberia.

Upper Part of Nasal Bone

	Afontova	Chukchi (8)		Osetes (12)	
Measurement		*Mean*	*Range*	*Mean*	*Range*
Upper width	9.8	8.1	5.1-11.2	11.1	7.0-14.3
Height at level of upper width	1.4	1.8	1.0- 2.5	3.6	2.0- 7.7
Index	14.3	22.6	17.0-26.7	32.1	21.9-53.8

NEOLITHIC SKELETONS FROM THE CRIMEA

1. *Fatma-Koba.* The first skeleton was excavated in 1927 by G. A. Bonch-Osomolvskii in Fatma-Koba cave. Stratigraphical conditions do not give rise to

the slightest doubt about the age of the skeleton, which belonged to *Homo sapiens*. The undisturbed grave yielded Tardenoisian geometric blades.

Morphologically, the Fatma-Koba skeleton is closest to the contemporaneous finds from Brittany. The latter are much more stunted, the brows are a little more sloping, suparorbital crest somewhat stronger, and the profile more orthognathous. Despite the opinions of Boule and Vallois, who connect this Brittany type with Chancelade, it is, as is the skeleton from Fatma-Koba, a further modification of the Crô-Magnon. In connection with the facial angle of the Fatma-Koba skull, I would venture the opinion that its mesognathous form represents remains of a "European-African stage," just as do several other Upper Paleolithic and Neolithic skulls of Europe, when signs delimiting Europeoids and Negroids did not appear so sharply as at the present time.

2. *Murzak-Koba.* In 1935 during excavations by S. N. Bibikov another burial was discovered with two skeletons, a male and female; they were examined by E. V. Zhirov. The male skeleton is characterized by typical Crô-Magnon features such as tall stature, dolichocephaly, a considerable width of face (exceeding the maximum breadth of the skull), and very low orbits. However, from the "classical" type represented by the "Old Man of Crô-Magnon" from near Les Eyzies, Dordogne, and the Crô-Magnons from the upper horizons at the Grotte des Enfants, Mentone, the Murzak-Koba skeleton differs in a number of characters bringing it closer to the Predmost variation.

The Murzak-Koba skull showed the following characters: (a) marked inclination of the forehead and strongly developed supraorbital torus; (b) considerable facial height; (c) comparatively small width of the face.

3. *Comparative Data.* The female skeleton is more similar to Fatma-Koba. In this connection I have even become suspicious of the correctness of my definition of the sex of the latter. Therefore, I examined carefully a second time the left innominate bone of Fatma-Koba: it has a more masculine structure, although not very sharply defined. The similarity in the structure of both skulls makes it unnecessary to give in more detail the characteristics of the female skull from Murzak-Koba, which would recapitulate the data given above for that of Fatma-Koba. If the skeleton from Fatma-Koba is really male, then the paleoanthropological material on the Crimean Tardenoisian gives us a new proof of the close philogenetic link between the Predmost and the specifically Crô-Magnon variants of the post-Paleolithic representatives of the European racial stock. Thus, the basic craniological features of both racial stems of northern Eurasia were already formed in the Late Paleolithic period. The fragmentary material available does not permit more detailed opinions.

Neolithic Crania from the Crimea[4]

Measurement	*No. 1*	*No. 2*	*No. 3*
Head length	198.0	190.0	189.5
Head breadth	140.0	145.0	138.0
Minimum frontal diameter	98.0	101.0	93.0
Bizygomatic breadth	147.0	139.0	137.0
Bigonial breadth	....	107.0	106.0
Upper facial height	76.0	67.0	66.0
Nasal height	52.0	48.0	46.0
Nasal breadth	23.0 (?)	24.0 (?)	24.0
Orbital height	27.0	29.0	28.0
Orbital breadth	47.0	46.0	42.0
Indices			
Cephalic	70.7	76.8	72.8
Facial	51.7	48.2	48.2
Nasal	42.2 (?)	50.0 (?)	52.2
Orbital	57.5	63.0	66.7

FOURTH TO SECOND MILLENNIUM BC

Data are now available for determining in general terms the diffusion of primary racial types during this period. By plotting the distribution of all finds attributed to the Paleometal epoch and the Neolithic skulls from the forest zone, a loose network of regions is obtained. From a detailed study the following deductions may be formed:

1. From 3000-2000 BC the European racial stock reached the Yenisei River.

2. European races of the second order, with the features by which they are characterized at the present time, were not yet formed. Almost everywhere, where ancient representatives of the European stock are known, they are characterized by a series of common features:

(a) Face wide (ca. 140 mm), but not very high (68-72 mm).
(b) Orthognathous with slight tendency to mesognathous.
(c) Strongly protruding nose.
(d) Low or middle orbits.
(e) Strongly developed frontal bones.
(f) Dolicho-mesocephalic (GOL 190, GB 143, CI 74.0-76.0).

4 No. 1, Murzak-Koba male; No. 2, Murzak-Koba female; and No. 3, Fatma-Koba male (?).

(g) Medium to high head (135-140 mm).
(h) Minimum frontal diameter 97-100 mm.
(i) Stature 168.0 cm.

The combination of indications are characteristic for the type which I consider possible to call Proto-European (following A. P. Bogdanov), connecting it with the Crô-Magnon, using this latter term in a broad sense. However, the reservation must be made that, although skulls of the Paleometal epoch are nearer to the Crô-Magnon type than to contemporary races, they nevertheless show its features in a somewhat modified form.

3. Variations within the Proto-European type are noticed with difficulty as a result of: (a) weak differentiation of a given type in general; (b) absence for the most part of an adequate number of skulls essential for the establishment of these more fractional taxonomic categories.

4. The "Andronovo" variant is the only one that stands out clearly, distinguishing itself from the rest by a straight forehead, by a relatively higher cephalic index (ca. 77.0) and by a sharply expressed low and wide face. In relation to the correlation of the fundamental diameters of the facial skeleton, there is probably a nasal index higher among the Andronovo variant than among the remainder.

5. The "Catacomb" variant is characterized by brachycephaly, but this needs further confirmation on the basis of new material. In particular Zherov's opinion (1941) concerning artificial cranial deformation deserves serious attention.

6. In consequence of the weak differentiation of the Proto-European type and the considerable territory over which it was distributed, we are in most cases deprived of the possibility, on the basis of anthropological material, to venture an opinion about the immigration of peoples within a given region. Only in connection with the Andronovo variant is it possible to affirm with a sufficient amount of assurance that it penetrated from Kazakstan to the Minusinsk region with a culture known by the same name. Evidently Catacomb burials are also connected in some way with the brachycephalic variant, but it is impossible to express a more definite opinion in this connection.

7. On the basis of materials from the lower Volga, features of the Proto-European type, which make it distinct from contemporary races, show a tendency to weaken at the end of the Paleometal epoch. The relief of the skull is less expressed, which is evidently connected with the lessening longitudinal diameter of the width of the face and also the lessening of the slope of the brow.

8. Representatives of the Asiatic stock are known at this epoch in the Cis-

Baikal region, where skulls were found distinguished by a complex of features which it is possible to assume as characteristic for the initial form of the Siberian branch.

9. To the west of the Cis-Baikal region the area of the Asiatic stem takes in the wooded plain of western Siberia, crosses the Urals, and reaches to the shore of the Baltic. Here is formed the racial type characterized by a high cephalic index and a shorter face. Along the zones of contact with the Proto-European races locally metamorphic types usually sprang up.

10. At the end of the Paleometal epoch in the Minusinsk region appeared a small admixture of a Far Eastern Mongolian race of Asiatic stem with a Karasuk culture. This element has a local importance and does not play a big rôle in the racial history of the peoples of the USSR.

In general, the boundary between European and Asiatic stocks coincides with the basic zones of forest and steppe. This concurrence is traceable only as far as the Yenisei, because on the Trans-Baikal steppes only Mongoloid forms have appeared. In a certain measure there is a coincidence between the area of the Asiatic branch and the forest cultures of the surviving Neolithic type.

However, one must not ascribe great ethnological importance to this coincidence. In the forest zone of eastern Europe Asiatic forms are known so far only as an admixture to the numerically predominating Proto-European type. A type, referred to by G. Kossina and others, is often treated as the originator and bearer of the more developed cultures identified by the perforated axe and cord-impressed pottery. This analysis cannot explain the Proto-European features of the Neolithic crania associated with pit-and-comb pottery from Lake Ladoga. However, there remains the possibility of the unfounded theory that the dolichocephalic Proto-European type borrowed the culture originated by the brachycephalic Lappanoids, or what is more natural, the acknowledgment of the evident fact that the pit-and-comb pottery developed among the tribes belonging to different racial types. If we assume, following F. Paudler, that the ancient dolichocephalic types of Europe belonged to two different races (the narrow-faced northern and the wide-faced "Dalskian"), attributing to the latter pit-and-comb pottery, then the contradiction seems at first glance to be less. The wide-faced Proto-European type then finds itself spread from Lake Ladoga on the west to Lake Baikal in the east, where a mixture occurs. However, it must not be forgotten that on the steppes this type is characteristic for the Afanasevo and Andronovo cultures and contemporaneous with Neolithic burials of the Baltic region. In addition, in this area there is a much purer type than in the Baikal region. The theoretically possible supposition that the pit-and-comb pottery

was brought to the Bailkal region by the wide-faced Proto-Europeans conflicts therefore with contradictory circumstance that in the regions basic to its diffusion the same type develops a completely different culture.

In certain cases it is possible to record that the resemblance of cultural features is accompanied by a similarity of cranial types, as for example, the Afanasevo culture of Siberia and the Drevne-IAmnaia of the lower Volga. However, there is no foundation whatever for forming conclusions from this about the cause of the connection. The crania of the Drevne-IAmnaia culture resemble those from the Lake Ladoga region in the same degree as those of Afanasevo culture. However, the Ladoga Neolithic does not reveal any specific resemblance to the Drevne-IAmnaia culture.

SCYTHO-SIBERIAN CULTURES

The theory of the ethnic unity of the "Scytho-Siberian" culture in the wide steppe plains spreading from the Ukraine to Mongolia and Tian-Shan does not find support in paleoanthropological material. Basically, the "Scythian stage" is not characterized by great changes in the distribution of racial types. In eastern Siberia the dominance of Mongoloid types is marked. The area of the spread of the European racial stock continues to take in the steppes of southern Siberia, including the Minusinsk region. The predominant Proto-European type in the Paleometal epoch has its direct descendants in the dolichocephalic type associated with Tagar culture and the Scythians of the middle Dnieper basin. However, at that time several characteristic features of the Proto-European type were under development distinguishing it from contemporary races of Europe. The basic type of population associated with the Tagar culture in the Minusinsk region is distinct from the Afanasevo in the very same direction in which Scythian crania from the lower Dnieper are distinct from crania found in the graves with painted bones. Thus, crania of Proto-European type may be defined as "Northern European" as I did in relation to the Tagar crania, and as Bunak assigned the Early Iron Age crania from Armenia.

The problem of the origin of the European brachycephals—not clear in relation to the Paleometal epoch—is somewhat clarified. Four centers of predominance among European brachycephals can be noted:

1. Altai Mountains and in separate tombs of the Minusinsk region.
2. Orenburg steppes and on the lower part of the Volga.
3. Crimea.
4. Seven Rivers, characteristic for the tombs ascribed to the Wusuns (Usuns).

Anthropological data do not provide the solution because brachycephalic crania have been found in tombs not correlated with any specific culture. Hence, it appears probable that the brachycephals appeared concurrently at various points of the ancient area of the Europeoids.

The Andronovo variant, noted in the Paleometal epoch, also continued to exist in the early Neometal phase; its distribution is recorded to the west. Crania from Sarmatian tombs of the Saratov–Trans-Volga area refer partly to the Andronovo variant and point to the eastern origin of a certain portion of the Sarmatians along the Volga River.

At the end of the Scytho-Sarmatian stage a change in the areas of the distribution of the European and Asiatic branches begins to be noted. The Paleolithic type filters through to the west with the Huns. About the beginning of our era it is observed in the Altai, where, up to then, Mongoloids were to be found as an insignificant admixture. During the middle of the first millenium AD the Mongoloid element spreads westward into Hungary. With this event begins the first stage of the historical events which resulted in a sharp change in the anthropological map of northern Eurasia.

Measurements and Indices of Kirghiz Crania of Wusun Period[5]

Measurements	*No.*	*Males*	*No.*	*Females*
Head length	9	176.9	4	171.5
Head breadth	8	144.7	4	143.3
Minimum frontal diameter	10	95.7	4	94.2
Bizygomatic breadth	8	137.8	4	129.4
Total facial height	6	101.2	3	95.7
Upper facial height	9	73.2	3	71.7
Indices				
Cephalic	8	81.3	4	83.4
Facial	7	53.4	3	55.0
Nasal	10	47.4	4	49.0
Orbital	10	84.5	4	82.9

TURKS, SLAVS, AND FINNS

With regard to theories concerning the origin of the Turks, the data remain inadequate for a definite basis; for example, such lacunæ as material about the

5 After Debets and Trofimova. The individual measurements were published by T. A. Trofimova, 1936.

Khazars, the ancient Bulgars (the existing series goes back to the fifteenth century), and other ancient Turkish tribes of Central Asia.

Among the ancient tribes, not yet Turkish in the full sense of the word but which stand on the way to transformation into real Turks, we know the anthropological type of the Huns. In Trans-Baikalia, where their tombs belonging to the first century before and after our era have been found, they were characterized by features of the dolichocephalic Mongoloid type, which occurred later in Hungary, as identified by Lajos Bartucz. Thus, even during the Proto-Turkish phase we can state definitely: (a) the link between one of the most important components of the future Turks with the Mongoloids; (b) the resettlement of this type across huge stretches of the Kazakstan steppes, along the Volga, and through the Ukraine into Hungary. On this line of migration followed by the Huns—that is to the borders of Kazakstan and to the European part of the USSR—skulls of this type have not as yet been found.

Several skulls of nomads of much later centuries can be attributed to a number of their descendants, but this is not proved. The problem of the Huns of eastern Europe is closely interwoven with the question of the Bulgars of the Kama region.

In the process of the formation of the Turkish languages, these people occupied approximately the same position as the Huns. Our material belongs, not to the time of the formation and flowering of the nationality of the Volga Bulgars, but to the fourteenth-fifteenth centuries; in it we do not find any indications of a new immigration from Asia. According to my anthropological findings, the Volga Bulgars are the earliest descendants of the indigenous population of the Ananino culture. This fact supports Marr's theory; but for greater certainty one should have a great many more crania of the early period and of different social groups, because the supposition exists that Asiatic newcomers among the Volga Bulgars formed only the ruling class.

Another Proto-Turkish group of eastern Europe, the Khazars, has received little anthropological study. Their tombs have not been found, since the upper Saltovo in this sense is not only disputable, but possibly simply Alan. Therefore, the only evidence is the testimony of the Armenian historian, Kalankatvats, who describes the Khazars as Mongoloid. Definitely Turkish tombs of a much later date are known, beginning with the second half of the first millennium of our era in Siberia and with the first half of the second millennium in eastern Europe. Everywhere, with the exception of the city necropolises of the Golden Horde, they are characterized by features expressive of the Turanian type with only a slight

European admixture. The latest evidence from the fifteenth century tomb at Tyaginka in the Chersonese yielded only Mongoloid skulls.

In Hungary, tombs ascribed to the Avars are also characterized by crania of Turanian type, but there, first, the European admixture is more noticeable, and secondly, the dolichocephalic "Hun" type may also be seen clearly. Thus, without doubt a large number of Mongoloids penetrated from Asia into Europe during the first half of the first millennium AD. From the twelfth-fifteenth centuries the steppe plains of eastern Europe entered into the area of diffusion of racial types of Asiatic origin, the penetration of which disrupted the earlier unified area of Europeoids. This widening of the area of the Mongoloids coincided approximately with the formation of Turkish languages on our steppe plains. Were these migrations the cause or the consequence of the formation of a common language of the inhabitants of the Ukraine steppes and Kazakstan? This question is not solved by anthropological material. Is the opposite process considered, which is the contemporaneous infiltration of Europeoid types into Asia? In the foothills of the Altai during the eighth-tenth centuries a Europeoid admixture can be recognized without difficulty, but it is possible and very probable that it is of local origin. In Trans-Baikalia a European admixture has not been discovered dating from the eighth-tenth centuries. Thus, in a wide region of the spread of Turkish settlement from the Selenga to the Danube, a migration of Mongoloid types can be traced very close to its western borders, but a migration of Europeans to the east, if there was one, did not reach beyond the Yenisei.

In the material at our disposal there is nothing at all that strengthens the theory about the "Alpine" proto-type of the Turks; rather it contradicts it. Between the theory of the Mongoloid basis and the theory of the formulation of the Turks both as racially Mongoloid and European, it is difficult to make a choice. Paleoanthropological materials taken in isolation testify rather in support of the former. The only contradiction and one comparatively easy to put aside is that of the Bulgar crania. However, one must note that our material does not contradict the second of the two theories. The solution of the question is connected with the paleoanthropology of Central Asia.

The problems for further investigation rest on the necessity of additional archaeological excavations to fill in the gaps in geographical and chronological relations. There are absolutely no data about the Far East and Yakutia. Little more than fragmentary are the materials from Caucasia and Central Asia. There are no data about the forest zones of western Siberia, about Komi ASSR, or the Archangel region. In the chronological sequence—even leaving the Paleolithic out of consideration—there are more than substantial gaps in different

regions. However, in relation to several cultures it is not necessary to search further, and the problem consists simply in the carrying out of mass excavations of tombs already known. For example, it is necessary to obtain materials about the Abashev culture for the clarification of the frequent prognathism which has been established in the crania from Katerino-Bishovo. It is also essential to organize excavation of Karasuk tombs because of the very mixed racial element.

EXPERIMENTAL DESIGN IN THE STUDY OF CULTURE CHANGE

GEORGE SPINDLER AND WALTER GOLDSCHMIDT[1]

THE PRESENT PAPER is a study in methodology. It is an endeavor to present a clear design for interdisciplinary research in the study of that kind of social change commonly called acculturation, as it was used in a study of the Menomini Indians of Wisconsin. It will not include the results of this study, which will be published elsewhere.[2] The presentation of this "experimental design," as we have chosen to call it, is motivated by our firm conviction that the time has come when anthropologists must be more conscious of their methods,[3] must sharpen their tools to fit their increasingly sharpened insights. Specifically they must recognize the need to handle data statistically wherever statistical analyses will serve their purpose, and must recognize the value in the orderly use of such tools as the Rorschach. This is no call—as it has sometimes been—to abandon the time-honored tools of the trade, participant observation and informant, but to integrate with these techniques those of the disciplines of sociology and psychology. Such integration requires the sharp definition of procedures.

It is of no small significance that an increased precision in method brings about a more precise use of words. The general definitions of acculturation are so vague as to hinder its usefulness.[4] Without endeavoring to impose our definition on others, we find it essential to formulate the term as it is used for the present paper and in the Menomini research. By acculturation we mean the process which takes place within a culture, a population, or a social system, in response to the impact of stimuli from other cultures or populations. We emphasize the term process as essential, yet we remember that no process is really ever seen, it is only inferred from an examination of a series of conditions. We emphasize also the fact that we have divorced the acculturative process from the

1 The methodology described in the present paper was worked out by the authors conjointly. The actual field work, the taking and analyzing of the Rorschachs, and other analyses are the work of Spindler, assisted by his wife, Louise Spindler. Acknowledgments are due to the Committee on American Civilization, the Department of Sociology and Anthropology of the University of Wisconsin, and to the Department of Anthropology and Sociology of the University of California, Los Angeles, for their support of the project.

2 Under preparation by Spindler.

3 The sociologists have used explicitly experimental designs in research for some time (*vide* Chapin, 1947, and Greenwood, 1945).

4 Redfield, Linton, and Herskovits, 1936; Linton, 1940. Herskovits, 1941 has summarized some of the objections to these earlier formulations.

diffusion process (though the phenomena are always associated) by directing our attention to the changes that take place within one culture under the impact of these outside stimuli.

Now, however, there remains the crucial fact that this process has two clearly separate aspects: one deals with the structuring of the relationships between members of the society and is essentially *social* in character; the other deals with the adjustment of the individual to the changing socio-cultural milieu, and is essentially *psychological* in character.

The research design here presented is oriented toward the understanding of the processes of change within a society under the impact of modern American civilization, and is particularly concerned with the adoption of outward manifestations of cultural and social behavior in their relation to changes in the individual personality characteristics of its personnel, without, for the present, treating either as the independent variable in the situation.

THE RESEARCH LABORATORY

No research ever completely escapes its laboratory setting—certainly not in the social sciences. It will be necessary, therefore, to present the more particular background for which our research design was created.

The 2,731 Menomini Indians live in a heavily timbered reservation of 236,000 acres in east-central Wisconsin. They have felt the direct impact of Western civilization since the mid-seventeenth century, were in exclusive contact with the French from 1667 until 1760, and have been under Anglo-European domination since then. The reserve was created in 1854, and since that time most Menomini have lived on this tract, though a good proportion go to nearby cities for work, and not a few have been more deeply involved in the main stream of the American culture as soldiers and workers in two world wars.

Though such historic factors are admittedly of influence, our research design is not historical, but treats with the implications of change from an analysis of the contemporary scene. Paramount in the present situation is the fact that the economy of the modern Menomini is dominated by the existence of a thoroughly modern sawmill and logging industry, which cuts 25 million cubic feet of lumber each year and affords an annual net income of over a million dollars. Most of the adult males are employed directly in some phase of its operations. Farming, the only other single important source of subsistence for reservation families, adds only about $31,000 a year to the tribe's income. Other miscellaneous sources add an estimated $80,000 to the annual income of the people on the reservation, and these include such occupations as making and selling "curios," running gas

stations and "pop" stands, gathering ferns for florists, trapping, and, of course subsistence hunting and fishing.

The lumbering is a modern, high-geared industry, with a variety of employment opportunities. There are foresters, lumberjacks, truck drivers, stackers, saw operators, planers, electricians, mechanics, engineers, warehouse workers, accountants, clerks, stenographers, salesmen, and typists. There are supervisory positions at all levels, from foremen of a six-man logging crew to mill manager. There is a range of salary for full-time, year-around employees from $1,200 to $7,500. Ninety percent of these positions are occupied by Menomini. Of twenty-five higher-level supervisory positions, only five are filled by White men, while a sprinkling of Whites is found throughout the organization.

The presence of this industry, together with other occupational opportunities on the reserve, affords a rather unusual situation—a gamut of economic opportunity from a strictly white-collar, middle-class managerial activity on one hand, through a series of lesser officials, clerks, skilled workers, laborers, adjunct and temporary workers, to persons eking out a living from the land as farmers, hunters and trappers, gatherers of ferns, and the like. The situation offers a gamut from a bridge-playing tea-going group to persons whose life revolves about native-oriented religious cultural forms. Notably, it does not offer a group whose mode of life and cultural form has been uninfluenced by Western culture.

We must note other cultural influences. European religion, thanks to the early French contact, is entirely Catholic; the Protestants have effectively been prevented from exerting a major influence on this aspect of culture. Other religious forces include the Peyote Cult, which came to the Menomini in 1914, the Dream Dance, which was introduced around 1880, and the Medicine Lodge (Mitāwin), which may not be ancient Menomini but contains many old Algonquian elements.

The bulk of Menomini live in Neopit, the site of the reservation headquarters and sawmill, and a minority at Keshena, a residential village. A few dozen families farm in the northeastern section of the reservation. There are scattered dwellings in the forests about Zoar and Crow settlement. The reservation is sprinkled with White residents, mostly men married to Menomini women, with considerable variation in economic standing, but generally in the middle range.

The great range of economic opportunity and achievement makes possible an examination of the effect of these differences. The great contrast with the situation described for the Ojibwa[5] is that there is a concrete opportunity for goal-realization in terms of middle-class White society. At the same time, the forest's

5 Hallowell, 1951, 1950, 1942, and elsewhere.

fastnesses protect and preserve the existence of economic activities and cultural forms oriented to (though not identical with) that of the native Northeast.

Of this laboratory situation we were aware in advance, as the Spindlers had spent a summer in the reservation before undertaking the present study. What we wished to do was to regularize the general impression of the various levels of socio-cultural readjustment among the Menomini, and particularly to understand the relationship between these evident differences and the psychological evidences of readjustment.

THE SAMPLE ANALYZED

In a study concerned with cultural variation the problem of sampling becomes crucial unless one is prepared to make consistent observations on all members of the community. In order to eliminate or reduce from our consideration the variables of age, sex and "blood," we took our sample from adult males, all recorded as being at least one-half Menomini. Strictly speaking, our conclusions relate only to a universe of Menomini thus defined. The sixty-eight cases afford a 20 percent sample of the universe thus reduced.

Hence, the persons studied were selected to represent all degrees of observable socio-economic status from the richest to the poorest, and all degrees of cultural participation from Mitäwin to bridge club. The range was established, therefore, in terms of one of the two generic variables that were subject to testing by the research—the sociological. It was not necessary, however, to have each area in this range represented by a constant proportion, and indeed the extreme categories are represented by close to a 100 percent sample. The theoretical advantage of true randomness (which is not gainsaid) had to be subordinated to considerations of rapport, for the intimate social and psychological data demanded required a good relationship between student and subject. The actual process was to obtain introduction from one respondent to another, making certain to cover the range in terms of manifest social characteristics.

Since the research design was directed toward the establishment of a covariance between two separate aspects of a process, the chief source of bias would be introduced by the unconscious selection of persons of certain personality types. In the absence of a clear predilection as to the nature of the covariance, it seems doubtful if any such bias was introduced. Selection in terms of person to whom the researcher could relate should tend to reduce the variability of the personality types included. The variations actually observed do not give evidence that such bias did, in fact, take place. Selection through refusal to participate could not be considered important since only four persons declined to coöperate.

A "control group" of twelve White men living on the reservation was used.

All of these men have made their homes there, work in the mill or run small farms, and are a functioning part of the social structure. All but two are married to Menomini women. They are intermediate in social and economic status.

This control serves as a standard against which all Menomini may be measured, and serves to show the degree to which certain personality patterns appear constant among the Menomini, regardless of the degree of acculturation, as contrasted to persons of distinct ethnic origin. For many purposes a sample of "normal" Rorschach protocols taken by other scholars might have sufficed, and indeed we have not neglected the opportunity to use such data. The development of a control group serves, however, as a check against personal bias in the taking and analysis of the Rorshach. It also holds constant certain obvious environmental and social factors which would not be easy to duplicate in any randomly selected group of protocols from non-clinical studies of Whites.

The control sample has its limitations. Chief among these is the fact that in our society a group of Whites who have selected to live on a reservation and marry Indian women may themselves be considered aberrant. Second is the fact that the sample was perforce quite small. Third, it was comparable in detail only to certain acculturational categories. For these it serves, however, to sharpen certain distinctions, and taken in conjunction with the general knowledge of personality expressions in Western society, affords us a measure of difference between Menomini and non-Menomini, regardless of degree of acculturation manifested.

THE SOCIOLOGICAL VARIABLE

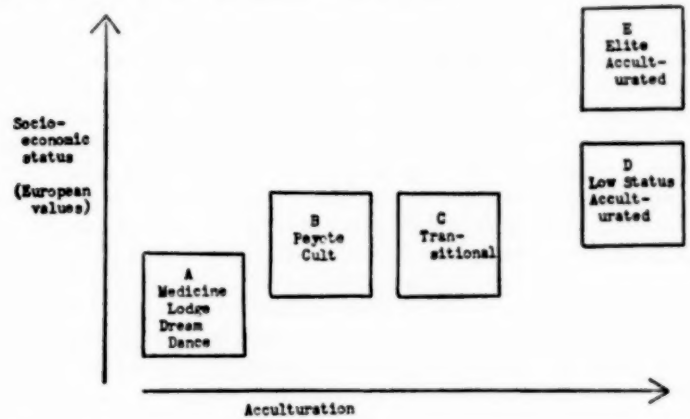
What we are here calling the sociological variable has to do with those aspects of the culture which deal with direct behavior in the social interaction system, that is, group orientations and interactions, means of livelihood, possessions and conditions of living. The variation in these aspects of the Menomini culture we have treated as the independent variable, though the research design neither depends upon nor proves the priority of these factors.[6]

The first order of business was to establish a systematic analysis of these social phenomena. To this end we prepared a brief schedule of data covering: amount and source of income; type, condition and facilities in the home; education; knowledge of Menomini language; parental occupation, education, "blood," language, and religion; religious affiliation and participation; knowledge of and belief in native lore and medicines; recreational patterns; group affiliation; and

6 Goldschmidt's theoretical predilection is that these social factors are, indeed, the independent variable, though with certain important restrictions in the meaning of that phrase which we cannot discuss here. Spindler's position is more open.

miscellaneous personal data. These items served as criteria for determining the degree of social acculturation. They reveal the individual's economic status and social participation, as well as his cultural orientation.

The sample population is divisible into five more or less discrete categories in terms of the schedule data; four of them along a continuum of acculturation, and one differentiated on the basis of socio-economic status. The relationship may be expressed in diagrammatic form as follows:[7]



Three of these categories (Medicine Lodge-Dream Dance, Peyote, and Elite) are actually groups, with defined membership and consistent group activities. The other two are not so formulated, but are distinguishable categories on a cultural continuum. The Peyote body itself may be considered as a special group variant of a generically transitional mass.

Of the many social criteria examined, the religious affiliation and orientation was selected as the crucial indicator. A and B of the chart are defined in religious terms; E is made up of persons who participate regularly in services and for the most part are members of the Holy Name Society. The transitional group (C) consists of persons who have had marginal participation in both Catholic and native-oriented religious activities, while the low-status acculturated (D) are persons with exclusive identification with the Catholic church, but who participate

7 These categories are partially comparable to those defined by Voget (1951) for the Iroquois. The status distinctions are in terms of European values; by which standards the most native-oriented group falls somewhat below the remainder, the elite clearly above.

only intermittently in regular services and are not members of the elite Holy Name Society.

That this variation in religious identification acts as an index for a functionally integrated complex of social and cultural factors, is consistent with the theory that religious commitment connotes also a commitment to a cultural system.[8] The validity of the index does not rest upon this theoretical foundation, but is verifiable by statistical procedures. The index chosen was chi-square, which in this case tests whether these categories are significantly differentiated in respect to many other social features such as occupation, home, parental status, recreational patterns, and use of medical facilities, and further, permits statistical expression of association between these specific variables and acculturational categories by coefficients of mean square contingency. Chi-square is most appropriate for such analysis because it depends upon counting rather than adding and averaging attributes; a vital consideration when qualitative or only roughly quantitative data is used.[9] Thus we are able to discover syndromes of objective socio-cultural characteristics for the acculturational and status groups we have defined, and further, to establish the critical points of differentiation and to give a statistical statement of over-all association (in coefficients of contingency) between selected variables and these acculturational categories.

The Medicine Lodge-Dream Dance group, for example, are not only participants in these religious observances, but for the most part its members live scattered in the forest at one end of the reservation in rough shacks, intermittently work for wages, at harvesting or logging, and depend upon subsistence hunting and fishing to supplement their larders. They identify deeply with what remains of the old culture: carry on ancient funeral rites, observe "ghost" feasts for the dead and some menstrual taboos, live under constant threat of witchcraft, repeat the Mana'pus tales, and speak Menomini in most social gatherings.

At the other extreme of the continuum are the elite acculturated; men who occupy supervisory or white-collar positions in the mill or agency offices, who have incomes between three and six thousand dollars per year, who have high school educations (or better), who live in excellent, modern frame houses furnished in middle-class style, and who are, almost without exception, members of the Holy Name Society of the Catholic Church. This group provides the effective leader-

8 Malinowski, 1945; Hallowell, 1950.

9 Validation involves categorizing responses to each criterion, and comparing each of the five acculturational groups by means of the chi-square with each other (and the White control) for each item available. The sample is small and thus chi-square is subject to error even with Yates' "correction for continuity," but it has greater utility than simple proportions and is far more economical than the calculation of "exact probabilities."

ship of the tribe today; nearly all of them have served as members of the advisory council.

These two extreme categories are significantly differentiated by means of chi-square in every one of the twenty-three basic schedule items, with the majority of tests significant at the .001 level or better, or nearly complete mutual exclusion. The categories occupying intermediate position have their own special characters, and exhibit varying degrees of differentiation from each other. This is not the place to present their socio-cultural syndromes and differentiating characteristics, though obviously they are less fully differentiatable than the above. These three categories together are broadly similar in socio-economic level. Their members live in frame houses of only fair condition either in the villages or scattered along the highways; their cash incomes range around $1,500 annually and are derived largely from intermittent unskilled labor in the mill or woods.

But within this broad range of socio-economic similarity there are reliable distinctions between the transitional- and low-status acculturated groups in regularity of wage earning and condition of the home. Further, these two categories are very clearly distinct in their relations to the native versus the dominant culture. They are clearly distinguishable in their knowledge of and belief in magic and medicines, their use of medical facilities, and their knowledge and use of the Menomini language, and in each item the transitional element is closer to the old way of life. These distinctions are given time depth by functionally related differences in parental status in respect to language, education, and religion.

Between the Peyote Cult and transitional category there are no reliable socio-economic distinctions. It would appear that the membership of the Peyote Cult is actually drawn from personnel in "transition" for whom the stress of this adjustment was especially acute, and if this is the case such similarity would be expected. The distinction here consists of membership definition (the cult is set apart in the reservation community), and in the cultural patterns of Peyotism itself.

Considering the total configuration of differentiations between all five of these categories, it is clear that there is a complex continuum of socio-cultural and economic disinctions running from the Medicine Lodge-Dream Dance to the elite Catholic acculturated group. The divisions of our sample represent distinguishable segments of this continuum with overlap of attributes in the intermediate levels.

Without reference to any specific categories, but for all of the five categories in relation to each other, it is possible to state the indices that differentiate most adequately,[10] and are therefore most positively associated with the defined socio-

10 With chi-squares of .001 or better for the total Menomini sample.

cultural continuum.[11] They are: knowledge of Menomini lore, witchcraft, and medicine; use of medical facilities; parental status in religion and education; type of games played; type and regularity of occupation; cash income; condition of home; and cooking facilities. Other indices provide distinctions between certain categories but have a less decisive role in over-all differentiation for the five segments together.[12]

Obviously the persons who constitute each category are not stamped from a mold, and will vary among themselves. Yet, statistical handling has made it possible for us to determine whether members of one category differ from those of others, and to establish a complex set of socio-cultural inter-relationships within a broad continuum of acculturation that would otherwise not be reducible to objective statement.

The objectivity of definition and the amenability to statistical handling make the use of specific criteria particularly suitable for analysis of this kind. It is important to remember, however, that these items only have meaning in a social and cultural context, and must be used in conjunction with the field methods more traditional to anthropological research. In order that meaningful items could be selected, and in order to understand their meaning in social context the field workers attended Medicine Lodge and Dream Dance ceremonies, participated in Peyote Cult meetings, danced at the "pow-wows" (in reservation terminology), made polite Sunday afternoon social calls, attended "showers" for new brides, each according to the demands of the appropriate social and acculturational level. Through these they arrived at an appreciation of the values, attitudes, social alignments, and interactions of the present Menomini. To give further depth to this understanding, and to reveal in detail some of the personal variables that constitute acculturation at the individual level, seven short autobiographies were collected from subjects carefully selected for their representation of certain important social and psychological processes.[13]

---

11 Expressed in mean square coefficients of continuity of over .55 (.80 is approximately the highest coefficient obtainable in the size of tables used).

12 Among the least decisive are: movie attendance and possession of a radio. The prevalence of both items suggests the depth of the impact of Western civilization upon the Menomini. Variations in age and degree of Menomini-White mixture provide the least differentiation of any of the indices. Age is significantly different only for comparisons of A and D; "blood," only for A and E.

13 An "expressive autobiographic interview technique" was utilized. This technique and its function in the study of acculturation will be discussed in another publication by Louise Spindler, who is largely responsible for its development in this study and has collected five similar autobiographies from women at different levels of acculturation.

THE PSYCHOLOGICAL VARIABLE

What we are here calling the psychological variable is that aspect of culture which lies within the individual's system of attitudes and persistent organization of bio-emotional and intellectual resources, as these are given meaning in social interaction and orient the individual to his environment. We are not concerned with the qualities of the individual as such, but rather with the uniformities in such "internal" cultural organization and with the consistent diversities as they appear between various groups. To be sure, it can only be observed in the individual, and the uniformities must be recognized as abstractions. Such uniformities in inner personal behavior have elsewhere been treated as "covert culture," as basic personality structure, or in Sapir's terms as unconscious aspects of social behavior.[14]

Our problem thus becomes one of discovering the degree to which evidences of personality structure vary in relation to the observed variances in the more external and social aspects of the personnel of the group undergoing the acculturative process.[15] We are concerned with problems such as that raised by Hallowell: "Are changes in the modal or basic personality organization a necessary and intrinsic part of the readjustments that acculturation implies, or can acculturation take place without radical changes in personality structure?"[16]

For this purpose we need a tool by which we can infer, with reasonable validity, the dynamic psychological structure of the individuals in our selected cultural setting. An imposing array of clinical studies, an increasing list of experiments, and pioneering attempts in cross-cultural exploration, indicate that the Rorschach Projective Technique is such a tool. Lengthy exposition of the rationale for such application is beyond the scope of this paper.[17] We merely note that it has already been used, with varying degrees of success and clarity of purpose in a Guatemalan community, among the Chinese, Hindu, Sikh, Samoans, Chamaro, Alorese, and the Ojibwa (at three different places), Wind River Shoshone, Hopi, Sioux, Papago, Navaho, Kaska, Pilaga, Chamula, and Yakima.

We are not unmindful, either, of the criticisms leveled at those investigations.

---

14 Sapir, 1927. Kluckhohn, 1943, Mekeel, 1936, and Thompson, 1948, among others have discussed various aspects of covert culture; basic personality structure is the term coined by Kardiner, 1939. We need not here concern ourselves either with terminology or with divergencies of the theoretical implication of each.

15 It should be quite clear that we are not doing a study of the genetic development of personality in an acculturating population. This might be the next logical problem, but it would require a different research design.

16 Hallowell, 1949.

17 Hallowell, 1945, has covered much of this ground expertly.

The Rorschach test does not automatically make a study psychologically penetrating or scientifically useful. It is but a tool, and like all instruments, must be used with care. Many of the studies have been criticised because important variables were overlooked or inadequately defined. Either a few heterogeneous individuals from a population were tested with little or no reference to their status, roles, or degree of cultural participation or at best the degree of acculturation was impressionistically ordered.[18]

There are those who would say that, as the validity and usefulness of the Rorschach test has not been fully established for our own culture, its use in cross-cultural context is doubly suspect. We agree that caution must be observed in accepting any tool or technique molded in our own cultural setting, but it is well to remember that cross-cultural psychological interpretations are always suspect of hidden assumptions in the form of cultural bias. Use of the Rorschach test forces one to deal with these assumptions explicitly, directly, and on the basis of objectively defined distributions of behavior. At the same time, investigations such as the one reported here have helped to sharpen and set limits to the valid meaning of responses.

Rorschach responses are in themselves data on personal behavior collected under semi-controlled conditions. If two or more groups are differentiated in terms of objective social characteristics and they show internally consistent but statistically differentiable responses to the Rorschach test, then we have a relationship between the social and psychological aspect of human behavior. At the very least it means that the experience patterns of the individual and his perception of these relatively unstructured problems have a direct relationship.

But few of us would be satisfied to stop here. Given differentiating uniformities in two classes of variables under semi-controlled conditions, we are in a position to make interpretations in context, using presently accepted principles derived from the study of society, culture, and the psychological nature of man.

The responses to the Rorschach test are, of course, not "culture-free"; indeed, we do not know what this concept could mean as applied to individual action. It is precisely because the individual's responses are cast in their particular form by his culture that we use such a tool. The ink blots themselves are, or approach being, culture-free (i.e., "unstructured") stimuli. The subject's responses are never culture-free. The protocol is therefore a *personal variant* of a *culturally patterned* response to a *relatively open* situation.

Interpretation requires, therefore, not only knowledge of the psychological

18 According to Lindesmith and Straus, 1950, this criticism could be justifiably leveled at most "personality and culture" studies.

principles from which interpretations are derived, but also knowledge and understanding of the social and cultural field. Problems of "adjustment," for example, must be considered in their functional context.[19] The anthropologist who uses the Rorschach technique cannot merely collect his protocols and leave them with a clinically trained expert for interpretation, but must be trained and equipped to take responsibility for final interpretation.[20]

The Rorschach test, then, was used to discover and delineate the personality characteristics of the same sample of adult Menomini males. One reason for its selection, it was noted, is that standardized indices have been established for the responses, and these can again be handled statistically. And, again, since they are only roughly quantitative, we prefer a counting method to one which adds and averages, and hence used the chi-square technique.[21]

The actual treatment involves setting up categories of patterns or specific scores, such as "Those with three or more human movement responses," and "Those with less than three human movement responses," for each acculturationally defined group, and comparing the distribution of cases. Each score or pattern was tested for significance of difference between each Menomini acculturation category and the White control group, and between each Menomini group and every other one.[22]

This procedure reveals the differentiation among the socio-cultural categories in specific facets of personality structure and function, such as the incidence of breakdown in emotional control, the amount and kind of "inner" life, intratensive-extratensive tendencies, tension levels, intellectual approach, type of control, interpersonal sensitivity, the role of biological drives, affective responsiveness, "anxiety" symptoms, and others of similar nature.

PROBLEMS AND HYPOTHESES

The experimental design of the research in culture change makes possible the testing of a series of hypotheses concerning the relationship between the social and the psychological aspects of this process. At the simplest level, we may

19 This does not mean that judgments conecrning "adjustment" are impossible. We would go beyond elementary relativism, agreeing with Hallowell (1950, 1951) that adjustment as "mental health" is not entirely "culture-bound," and has "universal significance both as a concept and as a value."

20 Spindler has had two years of formal advanced training in the projective techniques under Dr Bruno Klopfer.

21 See Cronbach, 1949, and Lewis and Burke, 1949, for the reasons why this technique is most useable for Rorschach materials, and what hazards it involves.

22 In instances where the logic of social and psychological variability is not violated, groups may be lumped together for statistical test, thus avoiding the use of too small *n*.

examine the direct relationship between the two: Is there differentiation in one aspect and none in another? Does the degree of differentiation in sociological patterns correspond to the degree of differentiation in psychological content?[23] To what extent is homogeneity within an acculturational category with respect to the sociological variable associated with homogeneity in the psychological? At this level of analysis it is not necessary to preserve the sociologically defined categories, for we may relate the evidences of psychological differences to various factors of social participation, religious belief, socio-economic status, and the like. Such questions can be answered without inferential interpretation of the meaning of Rorschach indices beyond the immediate connection between perception and experience.

Other meaningful questions and testable hypotheses may be posited: *Persons in the transitional categories (B and C), alienated as they are from the cultural symbols of their ethnic past and at the same time not having internalized the symbols which constitute the value system of Western society, will exhibit more symptoms of personality disorganization than members of groups closely identified with the symbols of either of these culture types.* Or, again, with the emphasis upon a different aspect of the same general problem: *The least and most acculturated individuals (i.e. groups A and E) will exhibit signs of personality "adjustment," but these adjustments will be of fundamentally different types, presumably because of the divergent cultural expectations.* The rejection or confirmation of these hypotheses, as well as the interpretive-analytic investigation of the pertinent data will be a contribution to the understanding of a specific relationship between cultural and personality integration, speaking anthropologically, and societal "massness" and individual "anomie," speaking sociologically.[24]

Extending further a logical series of hypotheses, we suggest: *A basic reformulation of personality takes place in the acculturation process only when the goals and values of the dominant culture are successfully attained.* This formulation builds upon the studies of Hallowell with the Ojibwa, which reveal only personality breakdown and no personality reformulation at any observed level of "overt" acculturation,[25] and has broad implications for any theory regarding the continuity and maleability of "basic personality structure."

Because of the utilization of a control group made up of Whites living on

23 The use of the same statistical treatment for both sets of variables makes possible a direct comparison of this degree of differentiation.

24 These are not simply different ways of speaking of the same thing. Consider, for instance, the relation of such a conclusion to the theory of mass society as currently expressed by Selznick (1951).

25 Hallowell, 1949, 1951.

the reservation we are in a position to consider another significant problem: *Due to a general unity of cultural background among all Menomini not necessarily reflected in the objective indices of socio-cultural adjustment, the Menomini of all levels of acculturation will exhibit significant differences in personality structure from Whites living and working on the reservation, and subject to many of the same social and economic forces.* This will contribute to the understanding of the relative influence of cultural, as compared to social, participation, since the intermediate categories of Menomini and the Whites participate in the same social context, but their cultural origins are distinct.

These represent the most important problems and hypotheses broadly formulated as directives for research before the pertinent data-gathering phases of the study began. They have, of course, been given their present form by reference to the actual field. Other problems have emerged as the analysis of data has proceeded, some of which can be answered as the study now stands, and some of which will need to be investigated further in the field. The research design here described finds its validation in the fact that the problems and hypotheses, both preformulated and emergent, can be investigated and tested with security. Without the isolation, definition, and relation of variables afforded by such a design, such testing would not be possible.

CONCLUSIONS

The conclusion we wish to stress is the importance of rigorous method to the further study of acculturation. Traditional ethnographic methods would not have yielded useful conclusions to the problem of cultural change that we set ourselves. It is doubtful if we could have arrived at the proper acculturational groups without the use of a schedule and sample data; it is certain that their use could not have been validated without such data, and obvious that the social involvements of these group differentiations could never have been understood. Once established, traditional ethnographic methods were essential to the proper appreciation of the character and meaning of life within the categories, and of course the relation between them.

It is only in the context of such an orderly procedure that the Rorschach technique can give meaningful conclusions. It may be true that homogeneous primitive cultures will yield uniform patterns that do not require such elaborate procedures, but in the dynamics of acculturation it is necessary to regulate its usage. The treatment of the Rorschach test as a kind of Aladdin's lamp by the true believer has resulted in its summary rejection by the disenchanted. There is a middle ground of treating Rorschach data as a measure of an important dimen-

sion in the total cultural picture. To do this requires the use of samples, controls, and relationships to other socio-cultural phenomena. Again, we must guard against its use in terms of an ethnocentric standard; remembering our lesson from Benedict that cultural patterns result in different norms. At the same time, we should not forget our Durkheimian lesson, that anomie is a product of mass society, and that an absence (or a duality) of cultural norms may lead to the absence of integration on the personal level.

Finally, we wish to note that the use of a research design has sharpened our conceptual apparatus. By a conscious effort to see acculturation process in an orderly fashion, we were forced to treat as separate entities the socio-cultural and psychological aspects of the situation. In so doing we were led to an examination of the internal variation of each, and to a recognition both of their separations and their interdependence. We recommend particularly to those engaged in integrated research between anthropology and its sister social sciences, and to those anthropologists who are dealing with phenomena related to urban society or Western civilization, that they clarify their procedure and design their research in such a way that their significant questions are answered and that these answers be amenable to checking against other experiments and, insofar as possible, be free from crucial subjective decisions.

Bibliography

Chapin, F. Stuart
1947 *Experimental Designs in Sociological Research* (New York).

Cronbach, Lee J.
1949 *Statistical Methods as Applied to Rorschach Scores* (Psychological Bulletin, vol. 46, pp. 393-429).

Greenwood, Ernest
1945 *Experimental Sociology: a study in Method* (New York).

Hallowell, A. Irving
1942 *Acculturation Processes and Personality Changes as Indicated by the Rorschach Technique* (Rorschach Research Exchange, vol. 6, pp. 42-50: reprinted in *Personality in Nature, Society, and Culture,* Clyde Kluckhohn and J. A. Murray, eds., New York).
1945 *The Rorschach Projective Technique in the Study of Personality and Culture* (American Anthropologist, vol. 47, pp. 95-110).
1949 *Ojibwa Personality and Acculturation* (Papers read before XXIX International Congress of Americanists, mimeographed).
1950 *Values, Acculturation, and Mental Health* (American Journal of Orthopsychiatry, vol. 20, pp. 732-743).
1951 *The Use of Projective Techniques in the Study of Socio-psychological Aspects of Acculturation* (Journal of Projective Techniques, vol. 15, pp. 26-44).

HERSKOVITS, MELVILLE J.
1941 *Some Comments on the Study of Culture Contact* (American Anthropologist, vol. 43, pp. 1-10).
KARDINER, ABRAM
1939 *The Individual and His Society* (New York).
KLUCKHOHN, CLYDE
1943 *Covert Culture and Administrative Problems* (American Anthropologist, vol. 45, pp. 213-227).
LEWIS, DON, AND C. J. BURKE
1949 *The Use and Misuse of the Chi-Square Test* (Psychological Bulletin, vol. 46, pp. 433-487).
LINDESMITH, ALFRED R., AND ANSELM L. STRAUSS
1950 *A Critique of Culture-Personality Writings* (American Sociological Review, vol. 15, pp. 587-600).
LINTON, RALPH
1940 *Acculturation in Seven American Indian Tribes* (New York).
MALINOWSKI, BRONISLAW
1945 *The Dynamics of Culture Change* (New Haven).
MEKEEL, H. SCUDDER
1936 *The Economy of a Modern Teton Dakota Community* (Yale University Publications in Anthropology, no. 6).
REDFIELD, ROBERT, RALPH LINTON, AND MELVILLE J. HERSKOVITS
1936 *Memorandum for the Study of Acculturation* (American Anthropologist, vol. 38, pp. 149-152).
SAPIR, EDWARD
1927 "The Unconscious Patterning of Behavior in Society" (in *The Unconscious: a Symposium*, E. S. Dummer, ed., New York; reprinted in *Selected Writings of Edward Sapir*, David G. Mandelbaum, ed., Berkeley, 1949).
SELZNICK, PHILIP
1951 *Institutional Vulnerability in Mass Society* (American Journal of Sociology, vol. 56, pp. 320-331).
THOMPSON, LAURA
1948 *Attitudes and Acculturation* (American Anthropologist, vol. 50, pp. 200-215).
VOGET, FRED
1951 *Acculturation at Caughnawaga: a Note on the Native-Modified Group* (American Anthropologist, vol. 53, pp. 220-231).

STANFORD UNIVERSITY
STANFORD, CALIFORNIA

UNIVERSITY OF CALIFORNIA
LOS ANGELES, CALIFORNIA

INDUSTRIALIZATION, A CHALLENGING PROBLEM FOR CULTURAL ANTHROPOLOGY

D. B. SHIMKIN

INDUSTRIALIZATION is a term symbolizing the hopes of a great part of the world today. Yet what does this word mean? Clearly, it is something different from the mere repetition of the socio-economic history of Britain between 1750 and 1850; something more than the desire to build factories and achieve mass production; yet something less than the full acceptance of the value systems and ways of life characterizing present-day Europe or the United States. To me, it signifies a means of gaining subsistence with least human effort and greatest certainty achieved through the systematization and simplification of work processes, the extensive division of labor, the substitution of mechanical for human energy, and the replacement of small and uncertain sources of supply by large and controllable ones. I regard it therefore as a cumulative cultural development, the product of substantial antiquity, and as a social force with many resultants.

In what ways does the problem of industrialization present a challenge to cultural anthropology? It offers a prime area for the study of cultural mechanisms, because the process of industrialization has been rapid, because it has affected a great range of cultures, and because its development has been recorded often in minute dtail. Also, the complexity of content and mechanism which characterize industrial development provides a stern test for the theories and methods of cultural anthropology, which have grown out of the analysis of putatively simple societies and social phenomena. How applicable to industrialized conditions is, for example, the concept of a culture area? Again the dimension of quantity, though generally avoided by cultural anthropology, is of vital importance in industrialization. Thus, it is the great scale of the automobile industry in the United States which lends it so much cultural significance.

The achievement of a genuine understanding of industrialization would bear not only theoretical but also practical fruit, valuable both to underdeveloped and to industrialized nations. For the first, a definition of the conditions essential for successful industrialization is vital. The second seeks to ascertain and maintain the factors promoting continued industrial development. The cultural anthropologist can aid the economist, the geographer, and the sociologist already working

on industrialization by contributing a comparative approach, a sense of cultural relativity, a fresh scheme of generalization.[1]

From the standpoint of cultural anthropology, industrialization might be regarded as a dual phenomenon. It is a cultural complex characterized by many regional and temporal combinations of numerous elements, each with a particular history of development and diffusion. It is also a social force, a powerful medium of acculturation, which has impinged upon almost all societies.

Let us review in turn the specific questions involved in the examination of these two aspects of the problem of industrialization.

1. Essential to a history of industrialization is an identification of the elements which have lessened the effort, and increased the certainty, of human subsistence. This is relatively simple for technology, but far more difficult for social organization and the history of ideas. The latter two often necessitate preliminary clarification: what, for example, is really meant by "world markets" or "the idea of progress"? Furthermore, their significance in human economic development may often be questionable, as in the instances of *laissez-faire* economics and of international cartel organization.

2. Tracing the history of the elements of industrialization, once identified, involves consideration of their changes in form, quantity, and function through time and space. In this field, Kroeber's theory of creative pulsations, i.e. brief periods of rapid change alternating with longer, less productive phases,[2] appears largely applicable.

Noteworthy illustrations may be found in the history of the iron and steel industry since 1700.[3] In the eighteenth century, the rate of invention gradually accelerated. The first substitution of coked coal for charcoal in manufacturing pig iron (about 1709) was followed in 1740 by Huntsman's invention of crucible steel. Then came developments with increasing frequency: the beehive coke-oven in 1763 and the mechanical boring of cast iron in 1774, culminating in a creative peak between 1782 and 1784. In those three years, the steam engine was adapted to maintaining blast-furnace drafts, to the operation of the forge hammer, and to the rolling of iron; simultaneously with those achievements of Watt and

1 A stimulating but uneven attempt at a culture-history of economics has been published by R. A. Dixon and E. K. Eberhart, *Economics and Cultural Change* (New York, 1938).

2 See A. L. Kroeber, *Configurations of Culture Growth* (Berkeley, 1944), esp. pp. 766-769.

3 Particularly useful studies on the technological history of iron and steel are those of T. S. Ashton, *Iron and Steel in the Industrial Revolution* (London, 1924); D. L. Burn, *Production Trends in the United States since 1870* (New York, 1934); W. Rinne, *Eisenkraftfeld Ruhr* (Kevelaer, Germany, 1949); and C. A. Zapffe, *A Brief History of Alloy Steel* (Cleveland, 1948).

Wilkinson, Henry Cort brought forth the manufacture of wrought iron through puddling and rolling.

Then followed a long unproductive period, broken between 1819 and 1822 by Faraday's and Berthier's pioneer experiments in alloying steel. Thereafter, invention accelerated once more, reaching a new peak between 1878 and 1886, when fundamental contributions such as the Thomas-Gilchrist process of smelting high-phosphorous ores, the by-product coke-oven, and the discovery of transformation points in steel were almost monthly occurrences. Additional discoveries and innovations kept appearing until 1906, though at a slower rate. Thereafter, the only outstanding development, up to World War II, appears to have been the invention of the continuous hot-strip rolling mill in 1922.

Careful research is needed to understand this phenomenon of creative pulsation. In part, it rests upon the simple working-out of all the possible combinations of a new principle. But much else is yet to be learned.

Burn's theory of a parabolic life-cycle in the quantitative growth of individual industries is also stimulating.[4] Of course, it is largely usable as an ideal model, distorted in reality by such factors as business cycles and economic "rejuvenation."[5] Other questions encompassed in research on the history of industrial elements include the mechanics of invention; also the complex interrelation between changes in form, quantitative occurrence, and range of utilization, all of which are partially independent variables.

3. The problem of the diffusion in space of industrialization is highly ramified. Several types of diffusion may be usefully distinguished: *unit transfer*, or the exchange of isolated elements, e.g. the American borrowing of the German magnetized-wire recorder, appears characteristic of the interchanges between highly industrialized nations. The simultaneous displacement of large industrial complexes, such as the adoption of Ford and Autocar design, plant layout, equipment, and operating methods in creating the Soviet automobile industry, might be termed *block transfer*.[6] It is characteristic of rapid industrialization. I would like to offer, in addition, the concept of *encapsulated* diffusion for the establishment, in backward areas, of industries overwhelmingly dependent on

4 See Burn, *Production Trends in the United States since 1870*.

5 Namely, the reversal of a secular decline in production deriving from the discovery of new processes, resources, or markets basically altering the product's competitive position. The impact of the automobile on the petroleum industry which was suffering from strong competition by manufactured gas and electricity for domestic illumination affords an excellent illustration.

6 See D. B. Shimkin, *The Automobile Industry That's Behind the Iron Curtain* (Automotive Industries, vol. 98, no. 3, pp. 25-27, 47, 58-60; no. 4, pp. 34-37, 68-74; no. 6, pp. 30-33, 53-54, 1948).

foreign technology and too complex for assimilation by the recipient culture. Illustrations of this type include Central African copper mines and Middle-Eastern petroleum-cracking plants. Furthermore diffused elements may be classified as *direct* or *transformed*, the latter being marked by important changes in form, frequency, or function in the recipient area. An example of the second type is Taylor's attempt to increase the productivity of manual labor through the rigid standardization of the patterns and rhythm of motion. His work, begun prior to 1900, has had but a modest impact upon American practice. It met violent social opposition; furthermore, later progress in mechanization, plant layout and transportation, incentives, and other productivity factors has made his findings essentially obsolete in this country. In contrast, the Soviet Union has made Taylor's approach the cornerstone of an entire industrial philosophy of piecework and speed-up, so-called Stakhanovism. Lenin's admiration for Taylor was unquestionably a factor in this transformation.[7]

Another noteworthy parameter in the study of industrial diffusion is the question of its variable speed.[8] For example, adoption of the Thomas-Gilchrist process for smelting high-phosphorous iron-ore began in Germany less than a year after its invention in England. On the other hand, the first German electric steel-furnaces came into operation only in 1906, twenty years after Heroult's invention of the electric-arc furnace in France, six years after Kjellen's development of the induction furnace in Sweden. Even greater delays have been recorded. In Germany, the use of coke in metallurgical furnaces dates to about 1830, more than a century later than in England. The earliest American instance was in 1811, but coke did not become firmly established as an industrial fuel until 1869. The causes for such variation appear to be many. One is the attitude of key personalities. The enthusiasm of two plant directors, Josef Massenez and Gustav Pastor, gave a strong impetus to German acceptance of the Thomas-Gilchrist process, the use of which in Britain had been discouraged by Sir Lowthian Bell's pronunciamentos. Differences in resource patterns have also been important. The abundance of wood in the United States long discouraged the use of coke. Secretiveness has also had its effects. British crucible steel, the

7 See G. Filipeti, *Industrial Management in Transition* (Chicago, 1946), esp. pp. 17-35.

8 On the diffusion of the Thomas-Gilchrist process to Germany and its block in England, see Rinne, *Eisenkraftfeld Ruhr*, pp. 98-102, and Burn, *Production Trends, passim*. In regard to the electric furnace production of steel, crucible steel, and metallurgical coke in Germany, see Rinne, *op. cit.* For crucible steel and coke in Britain, see Ashton, *Iron and Steel*, esp. pp. 24-59. For coke in the United States, see J. G. Butler, *Fifty Years of Iron and Steel* (Cleveland, 1922), esp. pp. 30-31, and L. C. Hunter, "Factors in the Early Pittsburgh Iron Industry" (in A. H. Cole *et al.*, *Facts and Factors in Economic History*, pp. 425-445, Cambridge, 1932).

foundation of the Sheffield cutlery and allied industries, defied almost a century of attempts at imitation in France and Germany. Beyond these bare indications, the causes of variation in the rates of industrial diffusion remain very uncertain.

4. Analysis of the association of various elements of industrialization in time and space brings up multitudinous questions. How stable is the content and how wide is the distribution of the various socio-economic eras and "revolutions," so widely accepted by economic historians? For example, the gamut of technological and social change since 1750 appears to be too great for inclusion in a unitary "Industrial Revolution."[9] On the other hand, I feel that Commercialism may have been a phenomenon considerably transcending the boundaries of Western Europe. Scattered data on seventeenth-century Russia and Japan show haunting similarities to the contemporary West.[10]

Another question is the delineation of focal and peripheral areas of industrialization, with their shifts through time. Here, qualitative and quantitative leadership must be differentiated. Thus, while the United States today leads quantitatively in most fields of production, it still remains far more dependent upon Western European than upon domestic scientific innovation: witness the theory of relativity, quantum mechanics, the jet engine, and penicillin. Even more striking is the contrast between the Soviet Union and France: the former has risen to second position in world industrial production, the latter has but recently risen above pre-World War I output levels. Yet French industrial inventions since 1900 have been far more numerous and important than Russian.

A third question, previously referred to, is the validity of the culture-area concept for industrialized societies. To my mind, the most challenging aspect of this question is the possibility of delineating industrial patterns, marked by systematically different approaches to similar problems. The examination of differences arising from the relative duration of industrialization or from accidents in resource distribution I do not regard as fundamental. Within the scope defined, the clearest evidence of consistent regional differences appears in regard to industrial organization. For example, the regulation of competition in

9 R. A. Clemen ("Inventions and Economic Trends" in Cole *et. al.*, *Facts and Factors in Economic History*, pp. 666-691) has advanced a three-fold division, adding to the revolution of steam power (ca. 1780) an electrical revolution beginning about 1880, and a chemical one after World War I.

10 Particularly in regard to the role of the entrepreneur and the character of large commercial undertakings; cf. Ye. I. Zaozerskaya, "Trade Transactions and Enterprises of the *Gostinoi Sotni* (Hundred Great Merchants) of the Middle Volga in the Late XVII and XVIII Centuries" (in A. I. Andreyev, *Pyetr Velikii*, vol. 1, pp. 214-245, Akad. Nauk, Moscow, 1947); Anonymous, *The House of Mitsui* (Tokyo, 1937), pp. 3-17.

Western Europe prior to World War II was characteristically managed by private, horizontal, marketing combinations; in the United States, by horizontal and vertical integration, by patent pools, and by quasi-judicial governmental bodies such as the Interstate Commerce Commission and the Federal Trade Commission. In technology, the data are obscure, yet the American penchant for removing bottlenecks through the improved treatment of marginal resources, as in copper, appears to contrast systematically with German concentration on substitutes, such as aluminum and magnesium alloys. Here, all in all, is a vast area of needed investigation.

Leaving the culture-historical aspects of the problem of industrialization, let us now examine it from the standpoint of acculturation. In my opinion, the study of industrial acculturation embraces two general questions. First is the determination of the cultural requirements inherent in industrialization. Second is the comparative examination of the impacts of industrialization, with particular reference to adaptive and nonadaptive mechanisms, and to the life-cycle of acculturative adjustment.

It is quite clear that the process of industrialization requires certain general conditions. To effect progressive systematization and simplification of work processes, mechanisms promoting communication, training, experimentation, and habit change are prerequisite. Essential in achieving extensive division of labor are the availability of food and energy surpluses, as well as an organization of social relations and space permitting wide exchange, effective coöperation. The substitution of mechanical for human effort and the development of large controllable sources of supply demand not only suitable cultural mechanisms but also appropriate physical resources.

The study of the operational requirements of industrialization is, however, an empirical as well as a philosophical problem, for changes in technology have constantly altered the range of specific cultural mechanisms effective in meeting the general conditions referred to earlier. Though much is still obscure, it is certain that the barrier of physical resources has long been diminishing in importance. The introduction of artificial fertilizers, improved agricultural techniques, refrigeration and canning, and industrial by-product feeds has eased the demands of food production. Effective energy sources have been multiplied five times or more since 1800 by increasingly efficient power production and transmission, and been magnified even further by the introduction of petroleum, natural gas, and atomic energy, and the rejuvenation of water power. Industrial materials have likewise expanded and been diversified. One consequence of these changes has been to permit the industrialization of increasing parts of the globe. Thus

Japan, poor in both coal and iron ore, could nevertheless industrialize in the *twentieth century* when water-power-generated electricity could relieve one deficiency and the combination of the Siemens-Martin open-hearth furnace and abundant scrap from already-industrialized nations the other.

Another secular trend has been to widen the range of effective organizations of space and of social relations. In the United States, the development of the passenger automobile, of electrical-power transmission and of the pipe line has greatly reduced the minimal necessary densities of urban communities, and has virtually eliminated the factor of local energy sources in industrial location. At the same time, standardized materials and specifications, improved control devices, flexible plant layouts, interchangeable machine-tool cutting heads, and—above all—the readier availability of trained personnel have eliminated much of the competitive advantage of the large, integrated company, notably in metal fabrication.[11]

In contrast, a major factor making more difficult the diffusion of modern industry to backward areas has been the increasingly restricted role of unskilled labor, on the one hand, and the need for a growing proportion of technicians, on the other. Thus the percentage of common laborers, other than on the farms, fell from 14.4 percent to 10.7 percent of the employed American population between 1910 and 1940. During these years, the proportion of professional and semiprofessional workers grew from 4.3 percent to 6.5 percent.[12]

Because no society is ever quite ready for new inventions, and because the general conditions favoring industrialization conflict internally, adjustment to technological change is an ubiquitous problem. Despite this fact, the comparative study of adaptive and nonadaptive reactions to industrialization remains a virgin field. For instance, a comprehensive comparative study of the family as a proprietal and as an industrial unit would be most valuable. Investigation of the role of governmental patronage at the inception of industrialization would also be rewarding. Scarcely less important than studies of adaptation would be careful research into recurrent nonadaptive reactions. These I would classify into two groups—escapes and regressions from industrialization. Characteristic of the former have been various transcendentalist movements in the United States, in Russia, and later in India. Interestingly enough, the closest

11 The basic source on this problem is United States Senate Committee, 76th Congress, 3rd Session, Temporary National Economic Committee, *Relative Efficiency of Large, Medium-Sized and Small Business* (Investigation of Concentration of Economic Power, Monograph no. 13, Washington, 1941). Voluminous additional reports on specific industries have been prepared by the United States Federal Trade Commission and private organizations.

12 See D. Yoder, *Manpower Economics and Labor Problems* (New York, 1950), p. 43.

German comparison seems to have been the ebullient *Wandervogel* movement, and nothing at all in this pattern has seemingly been noted in Japan. Why? Under the category of regressions I would place philosophies and political programs attempting to stop the social flux induced by industrialization, or even to force back a nation to an earlier system. Hitler's early programs give a striking illustration.

The life-cycle of adjustment to industrialization is also poorly known. An especial need exists for many more studies, drawn from diverse societies, like Landis' on the culture-history of three Minnesota iron-ore towns.[13]

And now to summarize: This paper has attempted to define a series of problems in the cultural study of industrialization. Two aspects, the historical and the acculturative, appear to be especially important; each embraces a series of special questions. The answers to these questions are largely unknown, despite the great accumulation of data on industrialization. For this reason, industrialization offers an intellectual challenge to cultural anthropology. But industrialization is as the same time an existing problem or hoped-for objective of most of the world. In consequence, the moral challenge of the study of industrialization is inescapable.

HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS

13 See P. H. Landis, *Three Iron Mining Towns: a Study in Cultural Change* (Ann Arbor, 1938).

EVIDENCE OF A PREHISTORIC AUSTRALOMELANESOID POPULATION IN MALAYA AND INDONESIA

G. H. R. VON KOENIGSWALD

IN A RECENT ARTICLE in this journal, Hooijer[1] arrives at the conclusion that "the relatively large human teeth that have been found in various Malaysian cave deposits and kitchen middens, and usually ascribed to Melanesoids on their way to their present habitat, in my opinion are evidence only that, during the Quaternary, Man evolved parallel to the other creatures, viz., with progressive diminution in general size. No passing macrodont migrants are necessary to explain their occurrence in Malaysia, the area which nowadays is free from big-toothed peoples. Evidence of prehistoric migrations of Man admittedly can be found in archaeological objects and also in the structural characters of the fossil and subfossil remains but certainly not in the larger or smaller size of the teeth." Hooijer's very personal and one-sided view should not be allowed to pass without comment, as it does not do justice to the many observations made in southeast Asia by serious experts.

That "die Grösze der Zähne als rassendiagnostisches Merkmal nicht herangezogen werden können," has already been remarked by Janzer;[2] a statement which is, however, not without exceptions.

THE EVIDENCE OF SKELETAL REMAINS

But the occurrence of a prehistoric Melanesoid population in the East Indies is in no way based on teeth alone. Hooijer mentions some of the skeletal remains which, however, have not influenced his conclusions.

The following finds of Melanesoid remains might be quoted here:

1. *Malaya.* About a prehistoric jaw from Lenggong Duckworth[3] states that "the body of the bone is relatively strong and thick, the chin not prominent, being in this respect quite similar to those of the aboriginal natives of *New Caledonia* or *Australia.*" A nearly complete lower jaw from Guak Kepah has been described

1 D. A. Hooijer, *Fossil Evidence of Australomelanesian Migrations in Malaysia?* (Southwestern Journal of Anthropology, vol. 6, pp. 416-422, 1950).

2 O Janzer, *Die Zähne der Neupommern* (Vierteljahrschrift für Zahnheilkunde, 1927).

3 W. L. H. Duckworth, *On Human Remains from Rockshelters and Caves in Perak, Pahang and Perlis and from Selinsing* (Journal, Malay Branch, Royal Asiatic Society, vol. 12, pp. 149-167, 1934).

by Mijsberg,[4] who after a careful study is very positive in his result, as is shown by the title of his paper: "On a Neolithic *palae-Melanesian* jaw."

F. D. Huxley[5] had already, about 1860, studied human remains from the same site. "But as the evidence is, it appears to me to be altogether opposed to the supposition that the bones"—not teeth alone!—"belonged to either a Malayan Race, or to a people allied to the Andaman Islanders. On the contrary I should be inclined to look among the *Papuan Races* of New Guinea or New Holland for the nearest allies of men to whom the shell mound once belonged."

2. *Sumatra.* Wastl[6] describes remains from Bindjai-Tamiang, northern Sumatra, collected by H. M. L. Schürmann, which "appear to have belonged to dolichocephalic people of small stature with primitive characteristics. It is therefore possible that one has to do here with representatives of the *Melanesoid* race, who had possibly spread over Sumatra in the Miolithium."[7]

3. *Java.* From Java the well-known Wadjak skulls, collected by van Rietschoten and Dubois, have to be mentioned first. They have been claimed to be proto-Australians. Even if they show a higher brain-capacity and a more simple tooth pattern in the lower molars than the Australian aboriginals, they nevertheless are closely allied to the Austroloid people.

One of the peculiarities of Wadjak Man is a horse-shoe shaped maxilla, contracted in the premolar region. The same type of maxilla is to be found in the Keilor skull of Australia, as demonstrated by Weidenreich,[8] and, according to Snell[9] also in skulls from Biak, New Guinea. Snell even found a "wadjakoid" maxilla among Javanese,[10] although clearly developed in one case only.

The last observation is of great interest, as it might be taken as a sign that the Wadjak skulls, the exact geological age of which is unknown, are not as

4 W. A. Mijsberg, *On a Neolithic Palae-melanesian Lower Jaw found in a Kitchen Midden at Guak Kepah, Province Wellesly, Straits Settlement* (Proceedings, Third Congress, Prehistorians of the Far East, pp. 100-118, Singapore, 1938).

5 Cited after van Stein Callenfels (Bulletin, Raffles Museum, ser. B, vol. 1, Singapore, 1938), p. 29.

6 J. Wastl, *Prähistorische Menschenreste aus dem Muschelhügel von Bindjai-Tamiang in Nord-Sumatra* (in *Kultur und Rasse*, pp. 237-243, Munich and Berlin, 1939).

7 Cited after van Bork-Feltkamp, *Anthropologische Bibliographie van den Indischen Archipel, etc.* (Mededelingen Afd. Volkenkunde, Koloniaal Instituut, extra ser. no. 3, Amsterdam, 1940), p. 111.

8 F. Weidenreich, *The Keilor Skull: a Wadjak Type from Southeast Australia* (American Journal of Physical Anthropology, n. s., vol. 3, pp. 21-32, 1945).

9 C. A. R. D. Snell, *Menschelijke Skeletresten uit de Duinformatie van Java's Zuidkust nabij Poeger (Zuid Banjuwangi)* (Dissertation, Batavia, pp. 1-135, 1938).

10 *Idem*, p. 110.

old as has been suggested; according to Dubois they should be of Pleistocene age, which is certainly not the case.

Skulls from the Guwa Lawa cave near Sampong, Madiun, in southern central Java, were in bad condition. But according to Mijsberg[11] "some *Australomelanesian* features in the facial skeleton and in the teeth" could be observed.

The most complete find in Java are skulls excavated in eastern Java by van Heekeren and carefully described by Snell.[12] One skull, called Poeger I, shows an interesting mixture of Australomelanesian features with those of the Malayan race, while another skull, called Poeger II, coming from the same stratum, is typically Malayan. Snell thus arrives at the conclusion, that the skulls are proof of a *relatively recent contact between Australo-Melanesian and Malayan races.*[13]

THE EVIDENCE OF CULTURAL REMAINS

The evaluation of cultural remains is much more difficult. Van Stein Callenfels[14] has termed a certain group of pre-Neolithic cultures in southeast Asia *"Melanesoid Civilisations,"* a term opposed by Collings[15] as too broadly conceived. Nevertheless, there is much connection between the lithic industry of Australia and the Malayan region, an important summary of which has been given by McCarthy.[16] Here should be noted only the occurrence of the handaxe-like implements (worked on one side only) of van Stein Callenfels' "Sumatra type" in Sumatra and Australia, and of flaked arrow heads with rounded base in Java and Australia. Von Koenigswald[17] recently described Tridacna-bracelets and shell money found together with large human teeth at Ardjawinangung near Gundih, central Java, which are of a type unknown from other sites in Indonesia, but to be found in abundance in the Bismarck Archipelago, especially New Ireland.

So we see that there is ample evidence for a prehistoric Australomelanesoid population in southeast Asia. Very probably research of the future in the prehistory of this region will allow us to separate Australoid and Melanesoid popula-

11 Mijsberg, *op. cit.*, p. 118.

12 Snell, *loc. cit.*

13 *Idem*, p. 129.

14 P. V. van Stein Callenfels, *The Melanesoid Civilisations of Eastern Asia* (Bulletin, Raffles Museum, ser. B, no. 1, pp. 41-51, Singapore, 1936).

15 H. D. Collings (Bulletin, Raffles Museum, ser. B., no. 2, Singapore, 1937), p. 123.

16 F. D. McCarthy, *Comparison of the Prehistory of Australia with that of Indo-China, the Malay Peninsula and the Netherlands East Indies* (Proceedings, Third Congress, Prehistorians of the Far East, pp. 30-50, Singapore, 1938).

17 G. H. R. von Koenigswald, *Über Sumatranische Schiffstücher und ihre Beziehungen zur Kunst Ozeaniens. Südseestudien* (in *Gedenkschrift Felix Speiser*, pp. 27-50, Basel, 1951).

tions and cultures, which must have passed our region on their way to their present homes in the Pacific.

It must be noted that the human remains and cultures mentioned are relatively young and surely not fossil. Up to the present there has been no evidence that they go back into the Pleistocene, viz. the Upper Palaeolithic. They represent the Mesolithic and Lower Neolithic—polished stone adzes in Indonesia at least are very late, later than in Europe—of southeast Asia, and have no bearing whatever on the Pleistocene history of Man.

Even if there had been a "progressive diminuation in general size" during the Pleistocene[18]—which in such a generalised form is surely not the case—all island forms must be excluded, as isolation in islands has very often had the effect on mammals of producing dwarfs. From our region the small sized horse of Java, the dwarf cattle of Ceylon, the dwarf siamang of Mentawai might be mentioned. For such a reduction in size there is no general rule: it might affect various species in different ways. In the rock-fissures of Patjitan, which very probably are of Upper Middle Pleistocene age, tapir and siamang are very large (one specimen of the latter above the maximum recorded for the living species); tiger and mayalan bear are of normal size, while the orang is decidedly smaller than either the Lower Pleistocene form from Sangiran, the prehistoric form from Sumatra, or the living species from Sumatra and Borneo.

When Hooijer writes[19] that "Microevolution with diminution in size, parallel to that found in animals of Malaysia, fully accounts for the presence at the prehistoric sites of human teeth of larger size than those of the present inhabitants of this area" such a conclusion could only be drawn from material belonging to the *same racial groups*. This is by no means the case. The Australomelanesoid people have been pushed to the east by the Malay, who arrived in two main migrations in Indonesia. Just one of the interesting results of Mijsberg's research on the Gauk Kepah jaw is, that "it proves a neolithic man from Guak Kepah to have been already in the possession of a lower jaw which in every detail resembles the mandible of the recent Palae-Melanesians. From this fact it seems to be highly probably that the Palae-Melanesians before leaving the Malay Peninsula and traveling farther eastwards have already developed all the somatical characters of their recent offspring."[20] Here is proof that the "macrodont" people of Malaya have not changed but *migrated*.

18 Hooijer, *op. cit.*, p. 422.
19 *Loc. cit.*
20 Mijsberg, *op. cit.*, p. 118.

Kern[21] has already observed that southeast Asia, the region in which we encounter the Indonesian languages, is identical with the area in which we find the polished quadrangular axe, the "Vierkantbeil." We may therefore draw the conclusion that it were the (first) Indonesian arrivals who introduced this type of tool. This happened circa 2000 BC, in relatively recent times according to van den Hoop,[22] van Stein Callenfels, and others. It was then that the macrodont Austromelanesoid population in Mayala, Sumatra, and Java was *replaced* by the Indonesians, and every conclusion about a reduction of the dentition of Man in Malaysia is irrelevant.

CONCLUSIONS

It was not before the late Neolithic—the period of the quadrangular axe—that the first Indonesians arrived at their present habitat in southeast Asia, where they *replaced* a mainly macrodont population of *Australomelanesoid affinities,* which is well established by skeletal remains (not the teeth alone). The older population then became extinct, viz., was pushed to the east. Dealing with two racially different populations no conclusions can be drawn about "micro-evolution in situ with diminution in size" being responsible for the smaller teeth of the present inhabitants of this region, as suggested by Hooijer.

Mineralogisch-Geologisch Instituut
der Rijks-Universiteit te Utrecht
The Netherlands

21 Vide A. N. G. Th. van den Hoop, *De Praehistorie* (in *Geschiedenis van Nederlandsch Indië*, W. Stapel, ed., pp. 7-111, Amsterdam, 1938), p. 87.

22 Van den Hoop, *op. cit.*

SOME FEATURES OF THE KINSHIP TERMINOLOGY USED IN NEW YORK CHINATOWN

ELIZABETH CHENG

THE FOLLOWING is a presentation of some common terms used by individuals of Chinatown in New York City in the habitual verbal address of their kin. The terminology reveals two aspects: first, the traditional terms which correspond with some minor exceptions to the standard Chinese kinship terms, and second, certain slight irregularities and actual departures from the standard terminology which (although in actual fact far less prominent than the extensive conformity) lend special interest to the study. Thus, the present interest in the terminology chiefly derives from what happens to a system of kinship terms in the process of emigration and acculturation. There is no attempt to present attending or consequent changes in the social organization or family cohesiveness, or in the attitudes toward such, etc. The concern is with the kinship terms as they are actually used, where and how they depart from traditional forms, and—as elucidating present usages as well as suggestive of possible future trends—the general knowledge of the traditional terms and the various attitudes regarding their use.

In order to obtain only the terms actually used by any one individual in informal conversation, and not the terms he considers proper usage or the terms used in formal written address, I asked specifically for the terms of address applied to relatives in the city or to those in the States with whom there is occasional contact. The study is thus incomplete in two respects. First, the list of kinship terms does not cover all the traditionally recognized relations since there are certain relatives (e.g., great grandfather) whom I did not succeed in discovering in any of the families of whom I made my inquiries, and others (particularly those of the granduncle and grandaunt category) whom I came across in an extremely small number of cases. However, as has been stated, this discussion is principally concerned with the changes that have taken place in the use of terms, and the terms just mentioned are those which may be expected to be affected last since the relations involved are the most formal. The study is also incomplete in the sense that since the terms which appear here represent those used by only fifteen families, there are very possibly some usages which do not appear in the discussion. However, in addition to asking for terms actually employed by a

family, I often asked for terms known to be used by other families, and whenever I was informed of a different usage, it was almost invariably one that I had already come across or one that I was later on to come across. Also, the specific data obtained from the fifteen families were supplemented by inquiries of a more general nature made outside of these families.

Almost all the individuals of Chinatown come from the province of Kwangtung and speak Cantonese or related dialects. The romanization of Cantonese terms is based on that used by Ernest J. Eitel in his *Chinese Dictionary in the Cantonese Dialect*. In cases where words are pronounced differently in different districts, the standard dictionary pronunciation is indicated and followed by the other pronunciations in parentheses.[1]

I

The most common term of address for father is *Pá* or, frequently, *Á Pá*. (*Á* has no meaning but is very often prefixed to a term when the relative is being addressed.) This is used by both native and American-born Chinese. *Té* and *Yé* are also used, but not as commonly as *Pá* and its derivative forms; sometimes in the same family either term may be used alternately with *Pá*. The derivatives of *Pá* are *Pá-pá, P'á* and *P'á-p'á*. They are sometimes used exclusively, but in most of the families that use one of them, the term is used alternately with *Pá* by at least some members of the family. *Pá-pá* is used more by the native-born Chinese, while *P'á-p'á and P'á* seem to be chiefly used by the American-born. The word *P'á* is generally regarded as "half Chinese, half English." For while on the one hand *P'á* is inflected like *Pá* and *P'á-p'á* like *Pá-pá* with neither syllable accented (unlike *papa* in English in which the first syllable is accented), on the other hand, the aspirated *p* seems to point to anglicization. I was not able to determine very definitely whether or not *P'á* or *P'á-p'á* occurs in Kwangtung village usages. All except one of those who use *P'á* or *P'á-pá* are American-born.

1 The following list of phonetic equivalences is not complete but suffices for the terms that occur in the discussion:

a is pronounced as *a* in *calm*
á is pronounced as *a* in *father*
e is pronounced as *e* in *there* or *then*
é is pronounced as *e* in *they*
i is pronounced as *ee* in *see*
o when final is pronounced as *aw* in *law;* wl en not final it is pronounced like *o* in *wrong*
ó is pronounced like *o* sliding into *ú*
u is pronounced as *u* in *put*
ú is pronounced as *oo* in *fool*

At the end of this article will be found a list of the Chinese characters corresponding to the English transliterations given in the text.

One woman uses *Á Pá* when speaking to her father in Chinese and *P'á-p'á* when speaking to him in English. A man who is native-born but speaks both Chinese and English with his son, born here, is called by the latter *P'á* or *Dad*.

The most common non-Chinese terms for addressing the father are *Daddy*, *Dad*, and *Pop*, the last being the most used of the three. They are sometimes used alternately with *Pá* or some other Chinese form, but are also frequently used exclusively. However, even in cases where one of these terms is now used exclusively, it will usually be found that at the very beginning it was used as an alternate form to some Chinese term. All of the individuals who use one of these three non-Chinese terms are American-born. In a number of cases, the fathers do not speak any English, except perhaps a few words, and all the conversation between children and parent is in Chinese; notwithstanding, the children habitually call the fathers *Pop*, although in a few cases *Pá* is an infrequent alternative, apparently a carry-over from pre-school days.

There are much fewer different ways by which the mother is called. In more than the majority of families *Má* is used. *Má-má* (rhyming with *Pá-pá*) is sometimes used alternately with *Má*, but it is not as frequently used as *Pá-pá*. The one non-Chinese term that I came across is *Mom*, and this is used as often as *Pop* although the two terms are not always used together in the same family. In one family the mother, American-born, is called *Mom* while the father, native-born, is called *Á Pá* or *P'á-p'á*. Like *Pop*, *Mom* is sometimes used even when the parent does not speak a word of English. Of those interviewed, all the individuals who use *Mom* are American-born.

Father's older brother is called *Pák* or *Á Pák*. In case the father has more than one elder brother, *Tai*, *I*, *Sam*, etc. (Big, Second, Third, etc.) are supposed to be prefixed to *Pák*. The wife of a *Pák* is called *Mò* or *Á Mò*. The same principle of numbering applies to *Mò*. Father's younger brother is called *Shuk* or *Á Shuk*. The numbering of the *Shuk*'s continues from that of the *Pák*'s and does not start all over again. When there are no *Pák*'s the brother right next to father is called *I* (Second) *Shuk*. The wife of a *Shuk* is called *Sham* or *A Sham* (also sometimes called *Á Sim*). Father's sister is called *Kú*. An older sister may be called *Kú Mò* to distinguish her from younger sisters. *Kú*'s husband is called *Kú Chéung*. Again, number prefixes are used to differentiate different *Kú*'s or *Kú Chéung*'s.

Mother's brother is called *K'au*. When he is older than mother he may be called *K'au Fu*. His wife is called *K'au Mò*. Mother's sister is called *I*. When she is older than mother she may be called *I Mò*. Her husband is called *I Chéung*. Number prefixes are used in the differentiation of all these relatives.

While number prefixes are still consistently or casually used in many families in the differentiation of uncles and aunts, the use of a term of address without a corresponding number prefixed (even when there are more than one relative in a particular category) is fairly frequent in Chinatown. This may be attributed to the fact that in many families at most one or two relatives of any one category would be in the States and known to the children, and there would therefore be little need for a systematic differentiation. The practice is said to be not altogether uncommon in China where number distinctions may be dropped on occasions when there is no possibility of confusion. This seems to represent a tendency towards simplification which is further favored whenever a family is broken up.

The use of number prefixes to differentiate relatives belonging to the same category is regarded in Chinatown, as in China, as the proper way of differentiation, although distant relatives (as well as close friends) are habitually addressed by their names prefixed to a corresponding kinship term, as when father's cousin is called *So-and-So Pák*. However, there is one woman who consistently addresses all her parents' *own* siblings in the latter way. I came across this practice in a number of other cases, but in none was it so systematic and consistent. One girl uses it only in addressing a maternal uncle; another, a boy, in addressing his elder brother. All those (aside from the ones who observe this practice) whom I questioned about the usage were either completely unfamiliar with it or knew about it but regarded it as unusual. I asked several persons who were born in China and did not come to this country until they were fully grown: none of them could recall the practice in their home villages, although some were of the opinion that the practice occurs also in China but is quite uncommon and "not good" usage. Possible explanations for the comparative frequency of this usage here are (1) it serves as a means to distinguish a relation from others of the same category without resorting to formal numbering; (2) it is influenced by the Western forms of *Uncle So-and-So*, etc. The latter explanation may seem to be forced in view of the fact that the usage does occur in China and has moreover an established precedence in the form of address used for distant relatives and close friends; on the other hand, it is quite conceivable that the Western example does influence the adoption of this usage, especially by the American-born.

In the address of uncles and aunts there are comparatively few persons who do not use Chinese forms. Only a very few of those who use non-Chinese terms in addressing their parents address their uncles and aunts as *Uncle So-and-So* and *Aunt So-and-So*. In one family the maternal uncles and aunts, all born in

the States, are addressed in this way, while the paternal uncles and aunts, born in China, are addressed by Chinese terms. It would seem that the intimacy between parents and children encourages the latter to experiment with foreign terms of address whereas the more formal (or at least less intimate) relations with uncles and aunts discourages this practice.

Older brothers are called *Ko*, preceded by the corresponding number or name (the latter very rarely), simply *Á Ko*, or by their names alone (especially among the American-born). Older sisters are similarly called, the term being *Tsé* (also pronounced *Di, Tei*). Younger siblings are almost always called by their names, rarely by the terms *Múi* (for younger sister) and *Tai* (for younger brother), which are more often used when referring to them than when addressing them. However, a sister or brother much younger than the other siblings may be called by them *Á Múi* or *Á Tai*, the term being dropped or continued in use as she or he grows up.

When Chinese terms of address are used, an older male cousin is called *Ko* with his name prefixed, and an older female cousin is called *Tsé* with her name prefixed. This usage is applied to both paternal and maternal cousins, although the latter are sometimes called *Piú Ko* or *Piú Tsé* with name prefixed (*Piú* denoting the maternal relationship). I did not come across any case in which either *t'ong* cousins (i.e. the children of one's father's brothers) or *piú* cousins are numbered in accordance with seniority and addressed in the way that *Pák, Shuk*, etc., are. This practice is infrequent in actual modern Chinese usage and even in the past was probably rather less frequent in real family life than the extensive occurrence in novels would lead one to expect. Younger cousins are almost invariably addressed by their names, although *Á Tai, Á Múi, Piú Tai, Piú Múi* are also sometimes used for very young cousins in the way that *Á Tai* and *Á Múi* are used to address young siblings. In a number of cases even older cousins are addressed simply by their names; this is especially true when age differences are quite small and all the cousins are born and brought up in the States. However, even in these cases, a cousin may occasionally be addressed by his or her name followed by *Ko* or *Tsé* as a token of good feeling or simply in fun. Sometimes, of say two brothers, a somewhat younger one may address a cousin older than both of them by the term *Ko* while the older brother simply addresses him by name.

Father's father is called *Kung* or *Á Kung* or *Yé* (a tonal distinction differentiates *Yé* when used for grandfather from *Yé* when used for father). His wife is called *P'o*, or sometimes (by those from Toi-san) *Nging*. I did not come across any instance in which non-Chinese terms are used. One grandmother, born in

the States and called *Mom* by her children, is called *P'o* by her grandchildren. Mother's father is usually also called *Á Kung*. Sometimes he is called *Ngoi Kung* to distinguish him from the paternal grandfather. In a few cases *Tsò* (also pronounced *Tu*) is prefixed to *Kung* for the same purpose.[2] Mother's mother is usually called *P'o*, also sometimes preceded by either *Ngoi* or *Tsò* when more specific differentiation from the paternal grandmother is desired.

Parents-in-law are addressed by special terms, by the same terms the spouse uses, or by the terms used by the children. More formality is observed by the woman in addressing her husband's parents. Usually, a woman addresses her parents-in-law by the terms *Lò Yé* for father-in-law and *On Yan*[3] for mother-in-law. I did not come across any case in which the wife addresses her parents-in-law as her children do. However, *Yé* and *Yan*, though primarily terms of address for a woman's parents-in-law, are also occasionally used to address paternal grandparents; in such cases a woman may address her parents-in-law as her children do, *Á Yan* and *Á Yé* instead of, more formally, *On Yan* and *Lò Yé*. One woman calls her mother-in-law, who is American-born, *Mom* and her father-in-law, native-born, *Á Pá;* in each case she uses the term used by her husband. Another woman calls her mother-in-law *Má*, as her husband does, but her father-in-law by the special term *Lò Yé* because the latter is fastidious about the observance of traditional usages while the former is not. This woman told me that she feels awkward when she uses the formal title *Lò Yé*. Apparently, she is Westernized to the extent that she feels unnatural about the use of the formal term, but not to the extent that the term has lost its traditional associations for her.

Most men address their parents-in-law as their wives or their children do. In only a few cases are the formal terms, *Ngok Fu* and *Ngok Mò* used for addressing the father-in-law and the mother-in-law.

Among families in which the traditional usages are still observed, a woman, before she has children, calls her husband's brother *Shiú, Tai Shiú, I Shiú*, etc. (This is also the term used by servants in addressing the sons of the family.) She calls their wives *Sò* with the corresponding number attached. After she has children she usually calls them as her children would, i.e. as *Pák, Shuk, Mò, Sham*. She calls her husband's sister by the special term *Kú Néung, Tai Kú Néung, I Kú Néung*, etc., or as her husband calls them—by the term *Tsé* if the

2 I have not been able to discover this use of *Tsu* (as *Tsò* is pronounced in Mandarin) in other parts of China where, on the contrary, it is invariably used when referring to *paternal* grandparents.

3 *On Yan* was the title given to the wife of an officer of the sixth rank during Imperial times. Its use as a term of address for mother-in-law seems to be confined to Kwangtung province.

sister is older than the husband or simply by name if she is younger. After she has children, she may follow her children in calling her sisters-in-law *Kú*.

A man usually calls his wife's sisters as his wife does, by *Tsé* or simply by name. After he has children he may start calling them *I*. His wife's brothers are similarly addressed —*Ko* or by name and, after he has children, *K'au*.

An older sister's husband is called by his name prefixed to *Ko*. A younger sister's husband is called by his name. I did not come across any case in which a special term is used to address either although they are sometimes *referred* to by special terms. An older brother's wife is called *Sò* by a speaker of either sex; the wife of a younger one is usually called by name but may also be called *Sò*.

Among the American-born, one's relations-in-law of the same generation, especially those not much older, are as a rule simply called by name, although Chinese terms of address may occasionally be used for the benefit of the elders or of the children (as when one uses the terms used by one's children).

A person calls his relatives of a younger generation by name. However, when relations are not very familiar and when at least one of the parties is traditional-minded, terms of address properly used by one's younger relatives may also be used. For example, a woman may call a sister of her daughter-in-law *I*, as her son or her grandchildren would.

II

It has been seen that departures from the use of traditional forms of address are most frequent within the primary family, while the address of grandparents, uncles, aunts and parents-in-law presents the most conformity to traditional usages. While the generation factor plays a fairly important part outside of the primary family in determining the extent of experimentation with non-traditional usages (so that, for example, there is more readiness to call an older cousin by name than an uncle by *Uncle So-and-So*), within the primary family, its influence seems to be extremely slight. Thus there are numerous cases of children calling parents by American terms even when the latter speak little or no English.

Irregularities and departures from the traditional usages seem to fall into two groups, depending on whether they are directly traceable to Western influences or whether they may be the result of certain situations, present also among many families in China although perhaps especially characteristic of Chinatown families. To the first group belong such practices as the calling of parents, uncles, or aunts by Western or semi-Western terms, and the address of one's older relatives of the same generation by name rather than by a formal term of address. In the other group are the irregularities like calling an uncle or aunt by his name prefixed to the term of address, and calling an uncle or aunt simply

by the term of address without the number that distinguishes him or her from other uncles or aunts. It should be pointed out here that the term "irregularity" does not necessarily imply a departure from the traditional terminology *after* the latter had come into existence, for there is no evidence to show the necessary prior appearance of either. It is rather meant to represent a usage which lacks *current* public sanction and is different from what is regarded by everyone as "proper." Where several usages are regarded as equally acceptable in daily use (e.g. the different ways by which parents-in-law may be called and the use of numbers *or* names to distinguish *t'ong* or *piu* cousins), although one of them may find more reference in the written literature or be considered more appropriate for formal occasions, the term "irregularity" would seem to be inappropriate, and the several usages are perhaps more accurately looked upon simply as alternate forms, all equally acceptable in current usage, and with the possibility that one or more of them might have at one time been considered irregularities in the sense described above.

It has been suggested that a possible cause for the seeming frequency of the irregularities mentioned above (which do also occur in China where too they are not commonly regarded as proper) may be the breaking up of the extended families (in this case not only a breaking up in the minds of the people, but actual physical separation), and the consequent loss of interest in the formal grouping of one's relatives or simply the absence of the necessity to distinguish the one or two uncles or aunts whom one does know from those whom one may never meet. On the other hand, these irregularities may merely be of the order of the usages mentioned above as examples of practices possibly once regarded as irregularities but now accepted as quite proper, and whose present-day extensive use is probably not traceable to specific objective causes but may be more the result of the tendency towards simplification, *favored* by certain objective circumstances.

III

An indication of the possible future of the kinship terminology in Chinatown may perhaps be found in the general attitude towards and knowledge of traditional usages. The traditional system is best known by those who come from China already fully grown and those who, although born here or brought into this country at a very early age, belong to a traditional-minded family which is at the same time replete with relatives of all degrees. The best example of the latter is a woman of forty, brought to the States at eleven, who is in the unusual position of having not only both parents and numerous relatives on both sides in the States, but a whole host of relatives by marriage as well. Her

own and her sibling's children nicely round out three generations. Another woman of sixty was born in the States, but had considerable schooling in Chinese. Aside from being a member of a large family, the older members of which are fairly traditional-minded, she has a strong personal partiality for traditional forms and customs and is exceptionally well-informed with regard to both actual and "proper" usage.

On the other side of the picture are those born in the States, or those brought to the States at a very early age, in whose families the traditional forms are not emphasized, either because of the absence of any inclination to do so on the part of the elders or because there is little scope for the application of terms since there are few family members in the States. A man, thirty-five years old, came to the States with his parents when he was nine. When asked what he would call his maternal grandparents, he replied that he did not know as they were both in China; however, having children of his own, he knows the proper address for paternal grandparents (his parents are both living and in the States). Asked what one's father's sister is called, he replied that he did not know as he did not have any. He told me that he thought both father's older brother and younger brother are called *Shuk* (properly applied only to father's younger brother). This man has not attended school here and speaks little English. The terms of address that he does employ show no Western influences and are strictly Chinese, but he has the barest knowledge of the terms which he does not habitually use. Another man who came to the States at eleven told me after some thought that in China he used to call his mother's brother *Á Shuk* (properly applied only to father's younger brother), but when I later asked him what his children call his wife's brother, he replied without hesitation, *Á K'au* (the correct term). It would seem that in his case, and those of others like him, a term of address becomes sometimes unconsciously associated with the particular person for whom it is habitually used, and the set of kinship terms (even such parts of it as are quite familiar to him) tends to lose its meaning as a *system*.

The knowledge of kinship terms outside of those actually being used is also very meagre among the younger American-born. In their case the frequent use of Western in place of Chinese terms contributes to the unfamiliarity with traditional forms. Here it might be mentioned in passing that the ignorance or uncertain knowledge of some of the kinship terms is frequently to be met with even among persons born, grown, and educated in China, and in whose families at least some traditional forms are still used. Two Chinese students, on separate occasions, after some hesitation gave me the term for father's younger brother's wife as the proper term for father's sister. Neither of them has such an aunt in

the family, but at least one of them has sisters and a brother whose children address the former by the proper term. Another student gave me a wrong term for mother's brother, but corrected himself a few minutes later.

As to the attitudes toward the use of traditional forms, that of the American-born group (especially those who have had little or no Chinese schooling) represents one extreme position. It is felt by many of them that it is more "natural" and less cumbersome to use Western forms of address, especially when addressing members of the primary family or relatives belonging to one's own generation. However, even among those who habitually use Western terms, Chinese terms are sometimes used as a token of special regard or good feeling, or simply in good-natured fun as a mark of exaggerated respect. Sometimes traditional terms may be used in the presence of elders who are particularly hostile to non-traditional influences, but very often, a parent's injunction against the use of non-traditional terms creates only the conceding attitude, "They tell me I am not supposed to, but. . . ."

Many native-born parents seem to view the departure from traditional usages with comparative equanimity, reserving their reproaches for occasions when uncles or aunts are wrongly addressed, and accepting with indifference, resignation, or amusement the use of *Pop, Mom* or any other Western term when they themselves are being addressed. Whenever a parent is intolerant of the use of non-Chinese terms, there is little likelihood of his prohibitions being ignored. However, consistent "sticklers" for the traditional usages seem to be decidedly in the minority.

CHINESE CHARACTER EQUIVALENTS OF TRANSLITERATED TERMS

Father	*Pá* 爸 *Á Pá* 阿爸 *Té* 爹 *Yé* 爺
Mother	*Má* 媽
Father's older brother	*Pák* 伯
Father's older brother's wife	*Mò* 姆
Father's younger brother	*Shuk* 叔
Father's younger brother's wife	*Sham* 嬸
Father's sister	*Kú* 姑
Father's older sister	*Kú Mò* 姑母

Father's sister's husband	*Kú Chéung* 姑丈
Mother's brother	*K'au* 舅
Mother's older brother	*K'au Fu* 舅父
Mother's brother's wife	*K'au Mò* 舅母
Mother's sister	*I* 姨
Mother's older sister	*I Mò* 姨母
Mother's sister's husband	*I Chéung* 姨丈
Older brother, older male cousin	*Ko* 哥
Older sister, older female cousin	*Tsé* 姊
Younger brother	*Tai* 弟
Younger sister	*Múi* 妹
Older maternal cousin	*Piú Ko* 表哥 *Piú Tsé* 表姊
Father's father	*Kung* 公 *Yé* 爺
Father's mother	*P'o* 婆 *Nging* 人
Mother's father	*Ngoi Kung* 外公 *Tsò Kung* 祖公
Father-in-law (woman speaking)	*Lò Yé* 老爺
Mother-in-law (woman speaking)	*On Yan* 安人
Father-in-law (man speaking)	*Ngok Fu* 岳父
Mother-in-law (man speaking)	*Ngok Mò* 岳母
Husband's brother	*Shiú* 少
Brother's wife, husband's brother's wife	*Sò* 嫂
Husband's sister	*Kú Néung* 姑娘

New York, New York

SOME PUBLICATIONS

OF THE

UNIVERSITY OF NEW MEXICO AND THE LABORATORY OF ANTHROPOLOGY

¶ For the following address orders to the University of New Mexico Press, Albuquerque, New Mexico

University of New Mexico Bulletin, Anthropological Series

Florence M. Hawley. Field Manual of Prehistoric Southwestern Pottery Types (Vol. 1, no. 4, 1936. 126 pp., map, table [revised 1938]) ..... $ 1.00

[Duncan D. Reese, jr.] Symposium on Prehistoric Agriculture (Vol. 1, no. 5, 1936. 72 pp., 6 figs.) 1.00

Louise C. Wynne and Ruth L. Bunzel. Navaho Upward-Reaching Ways (Species Relativity, Rationale and Emotion (Vol. 4, no. 2, 1940. 47 pp.) 0.50

Mason Brayton Owen. The Character and Distribution of the Jemez Indians (Vol. 4, no. 3, 1940. 30 pp., plates) 1.00

University of New Mexico Publications in Anthropology

Henry Hogan. Navaho Phonology (No. 1, 1940. 67 pp.) 1.00

Lucien Kenz. Comparative Vocabularies and Parallel Texts in Two Yuman Languages of Arizona (No. 2, 1941. 170 pp.) 2.00

Kenneth Starkey. Reflexion of Social Life in the Navaho Origin Myth (No. 3, 1947. 149 pp.) 2.00

Florence R. Gunn. A Comparative Social Study of the Papago (No. 4, 1948. 95 pp., 3 plates) 1.50

Bertha H. Lewis. Excavations at Calabasas, Hohokam, Pinal (No. 5, 1948. 103 pp., 16 figs., 4 plates) 1.50

Jane B. Jamieson. The Opata an Inland Tribe of Sonora (No. 6, 1948. 39 pp., 3 plates) 1.00

University of New Mexico Press Publications

Florence P. Cameron and Willis H. Bass. *Pima and Papago Indian Agriculture* (1942. 223 pp., 3 figs., map) 3.50

Ben. W. Hester [and collaborators] *The Stratigraphy and Archaeology of Ventana Cave, Arizona* (1950. xxvii + 599 pp., 65 plates, 118 figs., 65 tables. Published jointly with University of Arizona Press) 15.00

Florence P. Cameron and Willis H. Bass. *Yuman Indian Agriculture* (1951. 209 pp., 3 maps, 1 fig., 2 plates) 4.00

¶ For the following address orders to the Laboratory of Anthropology Post Office Box 2187, Santa Fé, New Mexico

Technical Series Bulletin

H. P. Mera. A Proposed Revision of the Rio Grande Glaze Paint Sequence (No. 2, 1939. 11 pp., figs.) 2.00

H. P. Mera. Population Changes in the Rio Grande Glaze-Paint Area (No. 9, 1940. 41 pp., 20 maps) 2.00

J. D. Jamieson. A Variation of Southwestern Pueblo Culture, Gamma Necessitas Analysis of the Skeletal Material (No. 10, 1940. 39 pp., 8 plates, 12 figs., 4 maps, 2 charts) 1.25